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**This dissertation is dedicated
to the victims of intimate partner violence
occurring within the military system.
May they know safety through support and justice.**

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THE FLORIDA STATE UNIVERSITY

SCHOOL OF SOCIAL WORK

**FACTORS CONTRIBUTING TO A MILITARY COMMANDER'S
DECISION MAKING PROCESS IN SPOUSE ABUSE CASES**

By

LISA SAYEGH

**A Dissertation submitted to the
School of Social Work
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy**

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ABSTRACT

Anecdotal evidence suggests that inconsistencies exist among military commanders when making disciplinary decisions on substantiated spouse abuse offenders. This may be due to inadequate training, unclear role expectations, conflicting policy statements, or personal biases. Such a situation may consequently lead to inappropriate decisions, potentially further endangering the short- and long-term safety of victims. It may also have a deleterious impact on offenders and the readiness posture of the military mission itself. Therefore, decision-making among commanders when disciplining spouse abuse offenders was identified as warranting empirical examination.

This study sought to address the problem by asking four research questions: 1) To what extent do individual and organizational factors explain commanders' decision outcomes when making disciplinary decisions on cases with varying degrees of spouse abuse severity?; 2) To what extent do individual and organizational factors explain commanders' decision-making style?; 3) Do commanders' level of seniority and attitudes toward sex-role egalitarianism determine how they perceive their role when responding to spouse abuse offenders?; and 4) As a group, will commanders' decision outcomes differ across cases with varying degrees of spouse abuse severity? The study's conceptual framework was grounded in role, feminist, and decision theories.

A randomly selected sample of 624 Air Force squadron commanders

located worldwide was surveyed. The survey consisted of two validated scales and five researcher-constructed scales and indices designed to measure the following individual and organizational variables: perceived role, decision-making style, sex-role egalitarian attitudes, seniority, and squadron operations tempo (i.e., the duration and frequency that a squadron's personnel are deployed away from their home base). Decision outcome was measured by two researcher-constructed vignettes depicting spouse abuse scenarios of varying severity.

Four main sets of hypotheses were tested: 1) Commanders reporting a strictly supervisory (i.e., "hands-off") role perception, weaker sex-role egalitarian attitudes, and higher operations tempo will make less stringent disciplinary decisions than commanders scoring in contrary directions on these variables; 2) Commanders reporting a "hands-off" role perception, higher operations tempo, and more seniority will report a greater degree of intuitive decision-making style characterized by using tacit knowledge than commanders scoring in contrary directions on these variables; 3) Commanders reporting more seniority and stronger egalitarian attitudes will more likely perceive their role as mentor-parental (i.e., "hands-on") than commanders reporting less seniority and weaker egalitarian attitudes; and 4) As a group, commanders will make similar decisions on an unambiguous severe spouse abuse scenario compared to decisions made on a mild-moderate spouse abuse scenario containing more ambiguity.

A survey return rate of 58.65% (n=366) was obtained after one mailing, well exceeding survey averages of 35-40%. Structural equation modeling with latent variables and multiple regression procedures were used to test hypotheses sets 1-3. The analyses yielded the following statistically significant results for hypotheses

set 1: 1) Commanders who perceived their role as “hands off” and reported higher operations tempo made more stringent disciplinary decisions in a severe abuse case (against direction hypothesized); 2) Commanders who perceived their role as “hands off” made less stringent disciplinary decisions in a mild-moderate abuse case (in direction hypothesized). Hypotheses sets 2 and 3 were not supported. For the fourth hypothesis, the multivariate Box test of equal variance supported the null hypothesis, which suggested that commanders as a group made similar disciplinary decisions on both cases, regardless of the severity of abuse. In general, the results of this study offered mild support for role and decision theories, but not feminist theory.

The study has important implications for social work practice and policy in developing a coordinated response to domestic violence. Social work practitioners can train military commanders and other decision authorities to improve role clarity so that they may be better prepared to make decisions that are in the best interest of all those affected by abusive relationships. Social workers in policy development can use the information from this study to create guidelines for commanders to follow in order to make more appropriate, consistent decisions.

CHAPTER 1

INTRODUCTION AND STATEMENT OF THE PROBLEM

Domestic violence has been described as one of the most insidious expressions of a culturally transmitted “disease” occurring in epidemic proportions in the United States today (Carden, 1994). In 1991, the American Medical Association published an informational packet to combat the “public health menace” of family violence, identifying it as “America’s Deadly Secret” (McCue, 1995). Tjaden and Thoennes (2000) state that “Intimate partner violence should be treated as a significant social problem” (p. 55). Despite our awareness of its seriousness, domestic violence remains a complex, intractable phenomenon. Its etiology is still debated and effective responses and solutions continue to stymie researchers, policy developers, lawmakers, and clinicians alike.

The United States military is not immune to this social problem. The incidence of domestic violence in the military and its response to it may be more problematic than in the civilian population. Some governmental reports suggest that violence among intimates plagues military members at levels nearly twice that of the general population (Bachman & Saltzman, 1995; Carlon, 2000).

Domestic violence in the military not only impacts those victimized, but also the military's manning levels and consequent readiness posture. Thousands of service members adjudicated guilty of spouse abuse are lost from the Armed Forces every year (Caliber Associates, 1996). Responses to domestic violence in the military warrants further examination as cases are typically handled exclusively within the organization itself.

The role of the military commander is an integral component in understanding how the military organization views and responds to domestic violence cases. From an organizational perspective, it is the commander—above all others—who represents the military organization, performing as a vehicle to carry out the organization's stated missions, laws, and policies. In doing so, the commander is responsible to embody the organization's values and priorities. On an individual level, commanders hold significant power and authority to exercise judgment when making decisions about issues or personnel under their charge. Thus, in addition to the organization's values and priorities, individual perceptions, beliefs, and values influence a commander's decision-making process.

With respect to most spouse abuse cases, the military commander has complete authority to make determinations regarding consequences for the active duty offender. The exception is in cases involving felonious assault or rape. Such cases are normally considered beyond the "jurisdiction" of the unit commander. Military lawyers typically advise commanders to prosecute these

cases via court martial. These exceptional cases notwithstanding, in FY 1999, 69% of substantiated cases of spouse abuse in the military were categorized as "mild," compared with "moderate" or "severe," abuse (Carlton, 2000; U.S. Air Force Family Advocacy Program, 1998). As such, the majority of all substantiated cases are placed in the hands of the offender's commander for disciplinary action.

Ultimately, then, the decisions of commanders are a fundamental element in the military's response to domestic violence. Moreover, both individual and organizational factors influence the commander's determinations on domestic violence cases, as described. Presently, the U.S. military organization has no specific guidelines for commanders to follow in making decisions about domestic violence (Jowers, n.d.). In the absence of official policy from the organization, commanders are free to choose from a range of responses to spouse abuse cases, which include referral to treatment providers, verbal or written reprimands, extra duty, restriction from promotion or relocation, and formal non-judicial punishment. Commanders can decide to administer any of these options singularly or in combination. Such a situation, then, can result in inconsistent responses (i.e., decisions) across different commanders, and possibly across different cases handled by the same commander.

This "legal intervention" process in the military differs significantly from that of the civilian community. A civilian charged with domestic violence in this country processes through various functions of the justice system (arraignment,

adjudication, appeal, etc.), delivered by *impartial* judges. That is, for most cases in the civilian community, the legal process does not involve the offender's job or boss. In the military, the offenders are "handled" by their commander, or boss, for most of these functions. In contrast to the civilian judge, the military commander may be biased to maintain the unit's mission posture, to which the offender can be an important contributor. The resultant conflict of interests may complicate the commander's ability to make an appropriate disciplinary decision and evaluate its effectiveness.

Understanding how commanders make decisions in spouse abuse cases can inform the development of standardized guidelines for commanders to have more effective and consistent responses. Such guidelines should incorporate the needs of the victim, the offender, and the military organization. For these reasons and those discussed above, the process by which a commander makes decisions on spouse abuse cases warrants close examination. This was the purpose of this study.

Introduction to the Problem

Definitions

Regarding prevalence of domestic violence in the general population, the following terms are defined as follows:

Abuse: Based on a definition of physical assault. This includes any unlawful physical or sexual attack, aggravated or simple, attempted with or without a weapon. The definition excludes rape, attempted rape, or attacks

involving theft crimes (Bachman & Saltzman, 1995; Tjaden and Thoennes, 2000).

Prevalence: The percentage of abuse cases within the total population surveyed each year.

Regarding prevalence of domestic violence in the military population, the following terms are defined as follows (U.S. Air Force Family Advocacy Program, 1998):

Spouse Abuse: Includes physical, emotional, and sexual maltreatment.

1. **Physical maltreatment:** Use of physical force that causes injury to the spouse, including grabbing, pushing, holding, slapping, choking, punching, sitting or standing on, kicking, hitting with objects, and assaults with knives, firearms or other weapons.
2. **Emotional maltreatment:** Acts or threats that adversely affect the psychological well being of a spouse, including those intended to intimidate, coerce, or terrorize. Such acts and threats include those likely to result in physical injury, property damage or loss, injury to pets, or economic injury.
3. **Sexual maltreatment:** The use of physical violence, intimidation, or the explicit or implicit threat of future violence by a spouse to coerce the other spouse to engage in any sexual activity. Includes rape/intercourse and coercing the spouse to participate in sexual activity with another person, as in pornography or prostitution.

Incident: A single report of one or more alleged acts of spouse abuse that

occurred in close proximity of time. Refers to one victim and may include more than one alleged offender.

Family Advocacy Program (FAP): Program designed to address prevention, identification, clinical assessment, treatment, and follow-up evaluation for family violence.

Judge Advocate General (JAG): The military commander's legal advisor who represents the government on legal matters.

Security Forces: The law enforcement or police force holding jurisdiction on the military installation.

Uniform Code of Military Justice (UCMJ): Federal laws of conduct applicable to members of the military service.

Prevalence in the General Population

Recent governmental statistics estimate 22% of all women in this country reported being physically abused by their spouse or companion at some point in their relationship (U.S. Bureau of Justice Statistics, 1998). The latest figures obtained from the National Violence Against Women Survey (NVAW) estimated that approximately 4.8 million intimate partner rapes and physical assaults were perpetrated against U.S. women annually (Tjaden & Thoennes, 2000). The vast majority of known incidents of physical assault are legally classified as misdemeanor offenses (U.S. Bureau of Justice Statistics, 1998). Although the methodology for calculating rates of violence may vary across survey reports, the overall levels of domestic violence incidence in America depicts a social

problem that has been persistent, if not intensifying over time (National Research Council, 1996).

Prevalence in the Military

The military prevalence reports of domestic violence differ from civilian reports because the military uses a more inclusive definition of abuse. The definition includes all forms of abusive behavior (e.g., physical, sexual, and emotional): "DoD's definition of spouse abuse includes, but is not limited to, assault, battery, threat to injure or kill, other acts of force or violence, and emotional maltreatment committed by one spouse against another" (Caliber Associates, 1996, p. 3). Therefore, it may not be appropriate to compare them with most civilian estimates that only include physical and sexual assaults (Bachman & Saltzman, 1995; Tjaden & Thoennes, 2000). Nonetheless, 85% of the abuse perpetrated by the military offender is physical abuse (Caliber Associates, 1996).

According to the National Task Force on Domestic Violence and Department of Defense statistics (2000), the rate of spouse victimization in the U.S. military steadily increased from 18.6/1000 women to 25.6/1000 between 1990 and 1996. The average rate per year of violent victimizations to spouses of military personnel during the same period was 23.2/1000. A different report prepared by Caliber Associates (1996) estimates lower rates, ranging from 11.2/1000 spouses in 1991 to 12.4/1000 in FY 1995. This report does acknowledge that its rates are probably lower than the true incidence of abuse

because the rates count each offender only once, rather than counting the total number of abuse incidents. Nevertheless, the military rates of spouse abuse overall stands in stark contrast with the 1992 civilian rate from the NCVS, which reported approximately 9 in 1000 women experienced violence at the hands of an intimate partner (Bachman & Saltzman, 1995).

More recent estimates are even higher as the Department of Defense changed its reporting policies (Carlton, 2000). Prior to FY 1997, figures represented only numbers of victims, i.e., reports included a single victim and one *or more* abusive incidents, as mentioned above. Since FY 1997, reports represent the numbers of *each incident* of abuse. This change allowed the data collection system to capture recidivism rates. Thus, the rate of reported spouse abuse incidents jumped to a range from 25.6/1000 in FY 1996 to 30.8/1000 in FY 1997. However, while the rate of reported cases increased, the rate of substantiated cases (i.e., adjudicated guilty) decreased, ranging from 22.0/1000 women in FY 1997 to 17.0/1000 in FY 1999 (Carlton, 2000).

The Physical and Psychological Effects of Domestic Violence on Women

Plichta (as cited in Campbell & Lewandowski, 1997) found that women physically abused by their intimate partner were significantly more likely to describe their health as fair or poor, to have been diagnosed with sexually transmitted diseases (STDs), gynecological problems, and to admit they needed medical attention but did not seek it. In their 1985 national survey, Straus and Gelles (1990) found that severely assaulted women had nearly twice as many

days in bed due to illness than other women.

Research in outpatient medical settings shows that incidence of battered women from self-report has ranged from 5% to 25%, with depressive symptoms found to be the strongest risk factor for identification of victimization (Hamberger, Saunders, & Hovey, 1993, as cited in Campbell & Lewandowski, 1997).

Additionally, Rath et al. (as cited in Campbell & Lewandowski, 1997) found that both battered women and their children used outpatient health services six to eight times more often than did women and children from nonviolent households.

Psychological abuse may be much more prevalent than physical abuse and affect how a woman views herself, partner, relationship, and others around her (e.g., her children). It has the potential to undermine a woman's sense of self in all domains of her life and, ultimately may compromise her physical health (Marshall, 1996). Research has also shown that this form of abuse—particularly repeated verbal ridicule—can have a stronger impact than physical violence, be predictive of a violent episode, and be associated with other serious physical and psychological symptomatology (Follingstad, Rutledge, Berg, Hause, & Polek, 1990; Stets, 1990).

According to Campbell and Lewandowski (1997), mental health problems—particularly depression—resulting from abuse prompt women to seek health care services as frequently as for physical health problems. Gleason (1993) found that of a sample of 62 battered women, 63% met diagnostic criteria for major depression, as compared to 7% for women in general. When compared

to national rates, diagnoses of phobia and simple phobia were found at levels four-five times higher in battered women than in women in general. Alcohol and drug abuse/dependence disorders were also significantly higher among battered than non-battered women (Astin, Lawrence, & Foy, 1993).

Unique Impact of Domestic Violence on the Military Organization

There are unique costs of domestic violence to the military as an organization. This is because the boundaries between “private life” and “work life” in the military are much more diffuse than in the civilian community, allowing for difficulties in one’s private life to affect the military’s operational mission. Retention and combat readiness are two critical areas where domestic violence has the most impact on the military organization.

The U.S. military has experienced persistent recruitment and retention problems over the past 10-15 years due to phenomena such as the end of the Cold War, consequent downsizing, and the strengthening economy. Hence, a top interest for military leaders is to retain as much of the force as possible. Domestic violence is antagonistic to this goal. Forty-three percent of military members found guilty of spouse abuse are separated from the service within three years of the initial substantiated offense (Caliber Associates, 1996). This equates to nearly 7000 members lost annually from the Armed Forces.

Maintaining a high level of combat readiness is a top military priority. Domestic violence results in a lowering of retention capacity and overall manning levels. This impact can adversely affect readiness posture at any given

time. Combat preparedness may be eroded further due to loss in mid-level supervisory ranks. The 1994 Abuse Victims Study states, "Offenders are somewhat less likely to be promoted and somewhat more likely to be separated from the service" (Undersecretary of Defense for Personnel, 1994, p. 3). Since most offenders are of lower- to mid-level rank (E-6 or below), many of them may never be promoted to higher ranks. This is problematic as members ranked E-4 through E-6 comprise a substantial amount of the supervisory pool for the enlisted force. Consequently, such a loss could represent an elimination of valuable supervisory and leadership experience, thereby impacting readiness posture. Moreover, the costs of intervention services and legal processes also drain fiscal resources that could otherwise be applied to operational preparedness.

Victim Oppression by the Military Organization

Lenient or inconsistent consequences by commanders with respect to spouse abuse can send an unintended message that they are insensitive to victims, and that victims' needs do not matter as much as protecting the active duty offender. This leads to victims feeling disempowered and oppressed. Judge Peter Macdonald, a civilian judge critical of the military's response system says, "Their [commanders'] primary mission is not to protect the victim... They want to protect the victim only as long as it doesn't interfere with the military mission. It's an innate conflict of interest" (Jowers, n.d.).

In addition, inconsistent consequences create a climate of uncertainty for

both victims and offenders. Victims are thus extremely reluctant to report abuse or seek help, fearing negative consequences for their husbands and consequently, themselves. The Abuse Victims Study revealed the most common fear that victims expressed in letting the military know about the abuse was, "their spouse's military career would be in trouble" (Undersecretary of Defense for Personnel, 1994, p. 17). Forty percent of the study's sample reported that they were afraid that the military would side with their abusing spouse. These results clearly express victims' beliefs that they are oppressed by the organization that appears more interested in protecting an abusive service member.

Historic Responses by the Criminal Justice System

Stopping marital violence requires a vigorous, concerted effort from the courts, the police, prosecutors, other criminal justice officials, and the treatment community. Historically, however, the legal system has treated domestic violence as a private matter, inappropriate for police, prosecutorial, or judicial attention (Barnett, Miller-Perrin, & Perrin, 1997; Mills, 1998). This schism has resulted in an ineffective response by the legal system that many researchers, victims, and advocates contend has continued into most recent times (Barnett et al., 1997; Carden, 1994; Davis & Smith, 1995; Thistlewaite, 1998). With respect to this study, understanding the attitudes and actions of prosecutors and judges on domestic violence is particularly relevant since a military commander assumes such roles when investigating and making disciplinary decisions on

spouse abuse cases.

Prosecutorial Response. Prosecutors have historically been accused of disinterest in family violence, similar to that of police (Fagan, 1988). Elliot (as cited in Fagan, 1988) suggested that high dismissal rates by prosecutors in spouse abuse cases gave police further disincentives to arrest or to carefully investigate for a successful prosecution. Recent research shows an apparent shift of the screening out point from the point of arrest to the point of prosecution. Davis, Smith, and Nickles (1998) conducted a study in which they randomly sampled domestic violence cases filed in the prosecutor's office and the circuit court in Milwaukee County, Wisconsin between mid-1994 and mid-1995. They found a case rejection rate of over 40% at the prosecutor's initial screening and another 19% of cases dismissed in court after a mandatory arrest state law for misdemeanor domestic offenses was adopted four years prior.

Another problem in prosecuting domestic violence cases has been the classification of most cases of battering as misdemeanor offenses, even when the violence is severe (Tolman & Weisz, 1995). In the Davis et al. study (1998), 18% of the cases involved the use of weapons, with some form of injury sustained by 73% of the victims. "What has not occurred, despite strong empirical evidence of the chronic, escalating nature of family violence and its overlap in many cases with stranger crimes...is a reordering of priorities regarding prosecution of family violence cases" (Fagan, 1988, p. 169). That is, prosecutors continue to legally treat family violence like stranger crimes,

ignoring the probability of escalation in severity that may not occur in isolated, stranger-perpetrated crimes. The trivializing of battering offenses, along with long court delays, lack of witness protection, and prosecutors' seeming indifference could further endanger victims as it may suggest that the offense is not serious and not worth the risks of prosecution. All of these factors can ultimately result in discouraging victim cooperation, leading to a case dismissal (Tolman & Weisz, 1995).

Judicial Response. The attitudes of many judges reflect "a man's home is his castle," which often result in a "hands-off" policy (Barnett et al., 1997, p. 206). Judges have been observed to believe men's accounts of the violence over the woman's if the two versions differ, and to exhibit overt gender bias in the courtroom (Barnett et al., 1997). Moreover, research on prosecutorial actions shows that prosecutors have little incentive to aggressively pursue a wife assault case through conviction and sentencing because "...prosecutors often find an unreceptive judicial audience for wife assault cases, especially in sentencing deliberations" (Fagan, 1988, p. 168). Davis and Smith (1995) report that part of the impetus for recent criminal justice reforms has been the high incidence of judges who fail to convict offenders; and when they did convict, they failed to sentence them in a way comparable to other offenders.

These observations can be illustrated by the recently well-publicized case of a New York criminal court judge, Laurin Duckman. Leo (1996) reported that Judge Duckman was threatened with impeachment after mishandling a domestic

violence case that ended in murder. The victim sought court protection from her abuser, who was her former boyfriend and a convicted rapist. After attacking her three times, the offender was jailed on misdemeanor charges. Despite the beatings, Judge Duckman minimized her injuries, stating that the woman was “bruised but not disfigured” (p. 24). The judge lowered the offender’s bail, and three weeks later, the offender shot the victim to death.

Attitudes unsympathetic toward victims have also been observed in military commanders. In a Web-based special report on domestic violence in the military, Jowers (n.d.) reported that victims said they were generally satisfied with the counseling and treatment they received from social workers in base family advocacy offices. “But victims were less impressed with military commanders, who they said seemed to dismiss counselors’ reports and blamed spouses for the incidents.” One severely abused victim reported that during the sentencing hearing of her convicted husband, his commander asked her if she were having an affair. Jowers reported that the victim was stunned and outraged, wondering what relevance that question had with his conviction and sentencing.

Recent reforms: No-drop policies and coordinated community responses. Recent reforms have met with limited success. Ford and Regoli (1993) researched mandatory prosecution (“no-drop”) policies, where the case is prosecuted by the State even if the victim does not press charges. They randomly assigned defendants charged with domestic violence in Indianapolis, Indiana to one of three prosecution tracks. The researchers found that of the

total number of cases in the sample (n=480), 20% were still dismissed in court because the victim refused to testify or could not be found, despite the no-drop policy. The same study also found that any type of prosecutorial action lowered the risk of recurring violence by 50% when compared to the level of pre-prosecution violence.

This study, however, had clear limitations that may restrict the applicability of its findings. In addition to a small sample size (relative to similar studies) and inherent regional differences, the authors imposed several delimiting criteria for case eligibility, which may not have rendered a sample representative of the local domestic violence population subject to the laws being tested. Despite these methodological flaws, the findings suggest that some action by the courts may be better than no action in preventing recidivism.

Other studies, though, have not supported mandatory prosecution in preventing future violence. Tolman and Weisz (1995) examined recidivism over an 18-month period as a function of arrest or prosecution and conviction. Using a more sophisticated data collection methodology than other studies which relied only on police reports, the researchers collected data from a victims' shelter, prosecutors' case disposition forms, and police reports. In a final sample size of 341 for analysis, no significant decrease in subsequent police reports or arrests was found in cases that resulted in conviction versus dismissal or acquittal. Also, in the Davis et al. study (1998) discussed earlier, no evidence was found that prosecution outcomes affected the likelihood of recidivism. The authors state,

"The likelihood of recidivism was indistinguishable for cases resulting in nolle, dismissals, probation with batterer treatment program, and jail sentences" (p. 441).

Coordinated community intervention is the most recent innovation in reforms for responding to domestic violence. This intervention combines the efforts of police, prosecution, probation, and treatment in a highly coordinated and systematic fashion. Murphy, Musser, and Maton (1998) examined the effects of prosecution and post-prosecution interventions on 235 offenders charged with domestic violence-related offenses. The cases were gathered over 8 months and followed for an additional 13 months to measure recidivism rates. The combined effects of prosecution, probation, and court-ordered counseling were associated with significant reductions in recidivism, as compared with a non-significant effect of any intervention in isolation. Finally, Tolman and Weisz (1995) found that a community protocol for arrest and successful prosecution (which included court-ordered supervision, levying of appropriate fines and costs, possible incarceration, and mandated participation in a treatment program) led to lower recidivism rates than no arrest cases or dismissed/not guilty cases. It also resulted in only 26% of the 1991 domestic violence cases being dismissed.

History of Response to Domestic Violence in the United States Military

The military's history of policy response to domestic violence essentially parallels that of the civilian community. No military policy for any form of family violence existed before 1970. The Armed Forces' efforts to combat family

violence began in the early 1970's with increasing public awareness to address child abuse and the passage of the Child Abuse Prevention and Treatment Act (PL 93-247, January 31, 1974), which mandated state reporting of child abuse and neglect incidents. The U.S. Air Force responded to this legislation by establishing the first service-wide child abuse and neglect program within DoD (Air Force Regulation 160-38, Air Force Child Advocacy Program) on April 25, 1975. The Army and Navy regulations became effective on February 1 and 4, 1976, respectively (McCarroll, 1999).

Actions to address spouse abuse in the military do not have as clear an origin or history, in part because there was no simultaneous national legislation on spouse abuse comparable to the Child Abuse Prevention and Treatment Act. Since the active military force is a federal organization, its policies are generally predicated on federal rather than state law (even though for most military installations in the U.S., service members must still abide by the State law in which they are located). Impediments to passing federal legislation for spouse abuse at the time were differences in state laws in terms of spouse abuse definitions, reporting requirements, and penalties. As already discussed, many of these differences persist today (Bachman & Saltzman, 1995; Barnett et al., 1997).

Coinciding with the passage of civilian mandatory arrest laws in some states and growing involvement from the research community, the DoD passed directives in 1981 assigning responsibility to the services for establishing and

operating *their own* programs to address both child and spouse abuse. The directives defined specific categories and types of domestic abuse, mandated that each service establish a central registry, and required the reporting of all abuse incidents to the respective service's registry. By the mid-1980's, each service had established a central registry and a comprehensive Family Advocacy Program (FAP) for the provision of domestic violence prevention and treatment services (Caliber Associates, 1996; McCarroll, 1999; Mollerstrom, Patchner, & Milner, 1992; Undersecretary of Defense for Personnel, 1994).

The FAP is the military's main policy and organizational response to domestic violence. In 1992, DoD implemented uniform program standards for all military installation FAPs (DoD 6400.1-M) (McCarroll, 1999). Administration and program evaluation are additional managerial elements of FAP, for which the Family Advocacy Officer (typically an active duty social worker) is responsible. Although the FAP is directed by DoD-level policy, there are notable organizational differences and varying programmatic emphases among the service branches. For example, the overall management of the Army, Navy, and Marine Corps FAPs fall to the line staff (operational, non-medical personnel); while the Air Force FAP is a medically managed program, falling directly under the Office of the Surgeon General of the Air Force. Consequently, the Air Force may experience less higher command involvement than its sister services (Undersecretary of Defense for Personnel, 1994).

FAP standards direct that the party who is first aware of a spouse abuse

incident (e.g., Security Forces, medical or FAP personnel) to notify the active duty member's commander. While commanders are encouraged to attend the interdisciplinary case review committee (CRC) meeting where case determinations for substantiation are made, they are not permitted to vote on the clinical disposition due to the inherent conflict of interests. The FAP treatment provider makes safety and treatment recommendations; but, while commanders typically follow recommendations made by professional staff, they still maintain authority to decline them.

Finally, regarding decisions outside the therapeutic interests of FAP, "Judicial or other punitive action in abuse cases is undertaken at the commander's discretion " (Caliber Associates, 1996, p. 32). Again, no clear or uniform standards, policies, or guidelines exist either historically or currently for these decisions in any of the services. To date, there have been no published empirical outcome studies on the effectiveness of the military's responses to domestic violence.

CHAPTER 2

CONCEPTUAL FRAMEWORK AND REVIEW OF THE LITERATURE

Introduction

Three theoretical perspectives were used to provide a conceptual framework for this study: 1) Role theory was used to explain how commanders perceive their role in disciplinary situations involving a spouse abuse offender; 2) Sociocultural concepts of oppression and patriarchy from structural sociological theories (i.e., Marxism and feminist theory) were used to explain how commanders' attitudes toward sex-role egalitarianism influence decision-making; and 3) Decision theories were used to explain the process of and influences on managerial decision-making.

Role Theory

In the absence of specific guidelines for action in such situations, the commander's official role as a decision maker is essentially undefined. Thus, there is latitude in defining roles, which may impact on decision-making style and outcomes.

Specific concepts of role theory that are relevant to decision making among military commanders are norms, role conflict, and role ambiguity. Norm is

a concept that applies to prescriptive behavior, that is, behavior defined by a society that "ought to" or "should be" performed (Thomas & Biddle, 1966). As Davis (1966) states, "...social norms are...an essential part of what we call social order...Some of them [the individual] respects because of their consequences...It is through them that his conduct is regulated and integrated with the conduct of his fellows" (p. 110).

In an organization, the prescriptions and proscriptions associated with a particular position (i.e., role expectations) are assumed to be determined by the broader organizational context. The organizational structure, division of labor, and the formal reward system are specified by the organization's directors (or leaders), are typically a matter of record and policy, and dictate the major content of a given position. Behaviors the occupant is "supposed" to perform are given by these and other properties of the organization itself.

These concepts are vital to the decision-making processes of military commanders because there are no implicitly understood organizational norms to define and regulate the role of the commander as a disciplinarian in substantiated spouse abuse cases. It is therefore left up to the individual commander to decide which behaviors he/she should enact in this role. In so doing, the commander's behaviors are subject to the influences of his/her own belief systems because the military organization (i.e., society) has not defined implicit behavioral norms in this particular situation.

According to role theory, role conflict generally refers to when a person

experiences incompatible demands in the performance of his/her designated role. Intrarole or intrapositional conflict occurs when the expectations of a single position are incompatible, usually resulting from a lack of consensus about role expectations. For instance, a person enacting the role of squadron commander may be expected to be a close comrade with a subordinate (for morale and unit cohesion), yet then be expected to be a firm disciplinarian when the subordinate is guilty of spouse abuse. The intrinsically different expectations within the same role in this case may create conflict that can be expressed either internally (e.g., stress) or interpersonally (Davis, 1996). Another source of conflict is when the squadron commander is "caught in the middle" between higher organizational pressures to perform in a certain way and the expectations held by those under him/her (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1966). That is, a commander may need to respond to both the wing (an echelon of command higher than squadron level) commander's expectations about disciplining spouse abuse and the offender's supervisor who may wish to protect the offender.

Role ambiguity can result from a situation fraught with conflict, as described above, or can occur when the explicit expectations for adequate role performance for a given position are unclear or incomplete. The latter situation was the focus for this study. With no existent guidelines or explicit policies, expectations for how a commander should carry out a disciplinary role with spouse abuse offenders are unclear and incomplete. Therefore, the commander is left to create his/her own expectations of how that role should be performed.

This researcher's experience as a practicing social worker has illustrated this phenomenon. Commanders who see their role as a mentor or caretaker seem to perform in these situations differently than commanders who view themselves strictly as a managerial leadership figure.

Variable. Given the above discussion, how a commander perceives his/her role in responding to spouse abuse offenders was identified as an independent variable to test its relationship with the commander's decision style and outcome. Perceived role was also identified as a dependent variable to test its relationship with seniority and sex-role egalitarian attitudes (discussed below).

Structural Theories

Concepts such as patriarchy and oppression, originating in structural theories and developed through Marxist and feminist perspectives, were used to examine military commanders' attitudes toward sex-role egalitarianism. Structural theories blame power imbalances and inequalities, dominant social practices and beliefs, labeling processes, and prohibitive socio-economic structures for problems people experience. The Marxist perspective is derived from structural theory and is concerned with the inequality of power distribution in a society. According to Marxist political philosophy, inequality and injustice to particular groups in society come from their working-class position (MacKinnon, 1982).

Like Marxism, feminism challenges society's basic structure and

advocates for the need to overturn its existing organization (Freeman, 1990). Feminism is also concerned with the structures of power inequality, but argues that they are principally gender based. That is, all forms of societal oppression stem from a male need to dominate and control. In order to ensure male domination, major societal institutions (i.e., law, family, economy, religion, language, and culture) are structured to maintain patriarchy, according to feminist thinking (Nes & Iadicola, 1989).

Oppression, "the exercise of authority or power in a burdensome, cruel, or unjust manner" (Morell, 1987, p. 148), goes part and parcel with a patriarchal society. According to feminist theorists, all systems of oppression—sexism, classism, racism, ageism, etc.—find their roots in patriarchy. The oppression of women is seen as a natural occurrence under patriarchy as it is a necessary element to maintain male domination and a male power base (Nes & Iadicola, 1989).

An integration of the concepts of oppression and patriarchy with those from role theory suggests that commanders' attitudes toward sex-role egalitarianism can contribute to their perception of and execution of the decision-making role in spouse abuse cases. Values and beliefs about women and egalitarianism in relationships—largely created by societal and organizational value structures—interact to influence one's definition of role. For example, commanders who believe in egalitarianism may define their role to include more involvement and assertion in making decisions about an offender.

Conversely, commanders who hold values that align with patriarchal attitudes may enact their role in such a way that would be oppressive to the victim (e.g., by discounting or minimizing the victim's story, failure to ensure safety, etc.).

These concepts, in turn, relate closely to decision-making on spouse abuse cases. Military commanders' attitudes toward sex-role egalitarianism may be closely related to beliefs in patriarchy and may influence their decisions about spouse abuse offenders. Morell (1987) suggests that people are oppressed by virtue of their membership in a category or group (e.g., women), not because of their individual qualities. Therefore, although the commander may not know the victim, she may be subject to oppression by the commander's decision about the offender if the commander thinks of her as a member of a group that is oppressed by society in general.

Related studies. Stith (1990) surveyed police officers using the Sex-Role Egalitarianism Scale (Beere, King, Beere, & King, 1984) to determine whether egalitarian attitudes predicted various police responses to domestic violence scenarios. Responses included arrest, mediation, or antivictim response. This third dependent variable was operationalized by the likelihood of warning the victim of possible arrest, discouraging arrest of the abuser, or arresting the woman. She found that egalitarianism was among other variables that significantly predicted an antivictim response: as egalitarianism decreased, the tendency toward an antivictim response increased. This finding supports the theory that patriarchal attitudes determine, at least in part, responses to partner

violence situations.

Lenton (1995) examined data from the Statistics Canada Violence Against Women Survey to test two competing theories of wife abuse etiology: power theory and feminist theory. The results of the analysis provided support for both theories in explaining wife abuse. The variables that comprised a patriarchal index were significantly associated with wife abuse (n=7,310 analyzed with logistic regression), as were variables indicating familial history of spousal violence and disability. None of the socioeconomic variables significantly predicted violence; but unemployment was found to be significantly and positively associated with the patriarchal index.

Variable. Given the above discussion, a commander's attitude toward sex-role egalitarianism was identified as an independent variable to test its relationship with the commander's decision style and outcome when responding to spouse abuse offenders.

Decision Theories

This group of theories is introduced with a brief discussion of their origins in management settings by the work of Frederick W. Taylor and his theory of Scientific Management (1911). The conceptual framework of this study was based on the temporal development of decision theory following Taylor's work, and identified variables grounded in three of the most prominent sub-theories under the general rubric of decision theory: Rational Decision Theory, Bounded Rationality, and Intuitive Decision Theory. Rational decision theory was used to

explore how decisions are made assuming all information and conditions required as available and to provide an historic perspective of the evolution of this body of theory and literature. Bounded Rationality was used to examine how people make decisions assuming imperfect conditions that bound the rationality of the decision-maker. Finally, the concepts of tacit knowledge and intuitive decision-making, relatively recent formulations in decision theory, were used to examine how people make decisions based on implicitly held information rather than explicitly available information.

Origins of decision theory in management: Scientific management.

Many of the principles of decision theory developed during the first half of the 20th century and their application in management were based on Taylor's Scientific Management (1911). The goal of Scientific Management was to infuse science into the world of management and industry. Under Taylorism, industry was approached from a strict reductionist and positivist orientation: jobs were analyzed and dissected into their smallest components; the worker's capabilities were scrutinized and de-constructed in the same fashion. The ultimate goal was to fit the two together to achieve the greatest economy (presuming a linear relationship).

Scientific Management was espoused by many in industry who believed that it would prevent union encroachment and quell other socialist ideologies that could threaten increasingly large, complex, bureaucratized firms. Application of scientific principles to management would obviate the need for unions and

"[t]he personal exercise of authority would cease" (Perrow, 1986, p. 57). Hence, the subsequent development of decision theory in management followed suit from this purely scientific, positivist, dehumanizing view of organizations.

Rational decision theory. Rational decision theory (or theory of rational choice), originally introduced by John Dewey (1933), holds that decision-making is "...a sequence of decomposed stages that converge on a solution" (Langley, Mintzberg, Pitcher, Posada, & Saint-Macary, 1995, p. 260). It describes the decision behavior of an idealized person (Hogarth, 1980) who has all the elements available in the external environment to make a sound, rational decision. Such elements would include perfect and complete information about decision options, outcomes, probabilities of outcomes, and assumed goals for the individual or organization. Tools based on linear mathematics, such as nonprobabilistic and probabilistic decision rules and electronic decision aids, are assumed available and used appropriately by the decision maker (Ivancevich, Szilagyi, & Wallace, 1977; Simon, 1982).

With respect to the internal processes of the individual, Hogarth (1980) writes that the Rational theory assumes the decision maker is capable of expressing both consistent preferences (evaluative judgments) and consistent beliefs (predictive judgments). Consistent preferences means that the decision maker is capable of expressing a consistent order of preference over a set of outcomes—i.e., the person *always knows* what he or she wants. Consistent beliefs states that what the individual believes will occur (as a result of a

decision) is based on probabilities and these probabilities should conform to the rules of probability theory.

Theory of Bounded Rationality. Often the actual choices made by individuals operating alone or in organizations (i.e., groups) are not predictable from a rational standpoint because one or more assumptions of Rational decision theory are violated in real decision situations. In response, theorists developed principles for decision theory that would take into account the motivational, cognitive, and computational *limitations* under which an individual makes actual decisions. The distinction between the classical (i.e., purely rational) perspective and this newer formulation was that while classical decision theory located all conditions and constraints of the decision-making process in the external environment, Bounded Rationality postulates the "...important constraints aris[es] from the limitations of the actor himself as an information processor" (Simon, 1982, p. 409). Thus, human characteristics of the decision maker naturally bind, or constrain, the rationality of his/her decision process.

Simon (1982) identifies three limits of rationality. First, risk and uncertainty are introduced into the decision formula in terms of viewing them as random variables with known *distributions* (i.e., an awareness of the *range of possibilities*) rather than assuming the decision maker has perfect knowledge of these functions. Second, it is assumed that the decision maker has only incomplete information about alternatives. This assumption directly relates to the individual's resources to seek information. Third, rationality can be bounded by

assuming complexity in the decision consequences or other environmental constraints to such a degree as to prevent the decision maker from calculating the best course of action.

A major implication about decision-making arising from the concepts of Bounded Rationality is that individuals tend to make decisions in sequence, based on the concepts of optimizing and satisficing. Optimizing is when the decision maker simplifies and reduces the real-world situation to a degree of complication that he/she can handle, and then makes the approximate-best decision possible. Satisficing occurs when the decision maker retains more detail of the real-world situation, but then *settles* for a satisfactory, rather than an optimal (i.e., approximate-best) decision (Simon, 1982). That is, if the individual is satisfied with present conditions, he/she will not search for more information, alternatives, or better strategies. In the organization, if a decision alternative meets minimally acceptable standards, it is chosen and a search for additional alternatives or strategies is discontinued. A search for more information or new alternatives occurs only if the decision-maker (or someone else in the organization) is dissatisfied with present outcomes (Ivancevich et al., 1977).

Another implication with respect to information is that because perfect information is not readily available, sound decision-making requires work, effort, and a motivated search. Under Bounded Rationality, however, decision makers use information that will result in the maximum amount of knowledge gain, but is also the most convenient (least costly) to obtain. Finally, Bounded Rationality

implies that the direction of the decision maker's search for information and alternatives is often influenced by personal perceptions, values, beliefs, experiences, and training. Therefore, information that may seem relevant to one decider (based on individual characteristics) may not be deemed important or relevant to another with differing values, beliefs, and perceptions.

The domestic violence literature suggests that information on the severity of abuse in domestic violence cases may warrant higher relevance than is currently given in intervention decisions. In performing a critical review of research on the deterrence of domestic violence, McCord (1992) concluded that "...severity of injury ought to be relevant to evaluating the impact of proposed interventions" (p. 232).

In the empirical literature, Bourg and Stock (1994) found that out of 414 domestic violence reports classified as aggravated battery (felony) charges, only 37% (154) resulted in an arrest decision by the police officer. Other studies researching prosecution and judicial decisions reveal that domestic violence cases led to lower assessments of case worth by screening prosecutors, even when severity of charges, victim injury, and weapon use were considered (Davis & Smith, 1995). Contrasting results were found in an interesting study examining procedural justice with spouse assault offenders. Here, researchers found that the rate of recidivism was lower when police acted in a procedurally fair (i.e., the officers' actions/decisions were commensurate to the charges against the offender) manner, even though the offender faced adverse outcomes

(Paternoster, Brame, Bachman, & Sherman, 1997).

Intuitive decision making/use of tacit knowledge. The most recent developments in decision theory recognize the roles that human intuition and tacit knowledge have on the decision-making process (Blattberg & Hoch, 1990; Brockmann & Anthony, 1998; Kleinmuntz, 1990). Unlike Rational decision or Bounded Rationality theories, these concepts emphasize the functions of subconscious processes (i.e., intuition) and implicitly held information (i.e., tacit knowledge) of the decision-maker. Langley et al. (1995) criticized both Rational decision theory and Bounded Rationality as being overly cerebral. That is, despite Bounded Rationality's departure from a strictly linear model and incorporation of external and internal factors that impinge on the actor's rationality, these researchers claim that it continued to view decision making as a largely cognitive, sequential process.

Intuition is defined by Brockmann and Anthony (1995) as a phenomenon of "...direct knowing, immediate understanding, learning without the conscious use of reasoning, or making a choice without formal analysis" (pp. 204-205). In decision-making, it is conceptualized as a conduit between the subconscious and the conscious minds and is used to access tacit knowledge. While most managers learn rational or analytical methods for decision-making and strategic planning, studies have shown that expert managers rely on intuition. However, the evidence for the effectiveness of intuitive decision-making remains equivocal. Thus, some researchers advocate for decision models that combine

database linear models and human intuition (Blattberg & Hoch, 1990). For this research area, such an approach is attractive: without existent guidelines, the military “has room” for modeling decision processes with explicit decision rules, while maintaining the value of commanders’ intuition.

Tacit knowledge refers to practical knowledge learned informally on the job. “It is that which is neither expressed nor declared openly but rather implied or simply understood and is often associated with intuition” (Brockmann & Anthony, 1995, p. 204). It is knowledge that is accumulated through experience and memories, which are filtered through one’s perspectives, beliefs, and values. The decision maker’s experience and values interact with knowledge stores that are called upon implicitly and unspoken during a decision situation. Researchers theorize that seniority (i.e., experience) in one’s job is a main factor contributing to the creation and use of tacit knowledge in work-related decisions (Giunipero, Dawley, & Anthony, 1999; Simon, 1987).

From a practical standpoint, tacit knowledge can often be a valuable tool. It may be the only feasible alternative when the decision-maker is pressed for time or when essential elements of the decision situation are hard to quantify or interpret. It can also be a viable option when an in-depth analysis is not possible and the decision-maker must move quickly to a plausible solution if a familiar pattern is recognized. In cases of domestic violence, frequently all the variables of the situation are unknown; and those that are known are inherently complex. Given this and the frequent time constraints under which a commander makes

decisions, use of tacit knowledge could be a potentially beneficial function.

Relevance of decision theories to the military setting. The operations tempo (Ops Tempo) of a commander's squadron is related to the theory of Bounded Rationality. Operations tempo involves the overall degree of mission demands placed on a military unit. It typically refers to the frequency, duration, location, and intensity of deployments from the unit's home base. In this study, it was conceptualized as a factor that can bound a commander's rational decision-making process due to conditions of relative uncertainty resulting from stress, time and resource limitations.

A commander's decision-making style may be related to various aspects of decision theory: whether the commander makes decisions based primarily on sought-out explicit information or on implicitly-held tacit knowledge. The decision-making style may also be related to the commander's seniority. Experienced commanders may have accumulated more tacit knowledge in dealing with spouse abuse situations and, therefore, may use intuitive decision-making processes more often than do less experienced commanders.

Variables. The operations tempo of a commander's squadron was identified as an independent variable grounded in the theory of Bounded Rationality. Severity of abuse was identified as an independent variable also grounded in the theory of Bounded Rationality. Abuse severity may be a highly relevant piece of information to be considered by a commander when deciding on commensurate disciplinary actions for an offender. However, according to the

theory, individual characteristics (e.g., sex-role egalitarian attitudes) of the decision-maker may influence how s/he views the degree of relevance of abuse severity and thus may influence the consequent decision.

The seniority of a commander was identified as an independent variable grounded in the concepts of intuitive decision-making and tacit knowledge. Specifically, the more senior a commander is, the more s/he would be expected to make decisions intuitively due to a larger store of tacit knowledge than that of commanders with less seniority.

A commander's decision-making style was identified as a variable grounded in various aspects of decision theory: whether the commander makes decisions based primarily on sought-out explicit information (Rational theory) or on implicitly-held tacit knowledge (concepts of intuitive decision making).

Decision style was viewed as a dependent variable predicted by the independent variables, Ops Tempo, commander's seniority, and perceived role. The empirical literature that has tested the effect of decision style on decision outcome has yielded mixed findings (a detailed discussion of these findings is presented in the next section). Thus, for the proposed model, decision style is viewed as indirectly affecting decision outcome, mediating the direct effects of other variables on outcome.

All independent variables were tested to determine their effect (if any) on a commander's decision outcome, the dependent variable/outcome of interest. See Figure 1 on p. 61 for a path diagram of the proposed theoretical model.

A Critical Review of the Decision Literature

Rational Theory

Rational theory of decision-making holds that all of the environmental elements a person would require to make a rational decision are known. Further, the theory implicitly assumes the decision maker's mental capabilities for problem solving and decision-making are unimpaired and unimpeded. Therefore, with both environmental factors known and individual abilities intact, the decision process can be linear.

Simon, a noted authority in decision theory, points out a fundamental shortcoming in Rational decision theory, however. He characterizes Rational theory (sometimes referred to as the "theory of the firm") as descriptive, rather than predictive, which thus weakens the theory's explanatory potential (1977, 1978, 1979, 1982). That is, the theory emphasizes only the *results* of rational choice, rather than the *process* or *procedure* of choice. The theory does not address (thus predict) the actual processes of the human decision maker. Hence, Simon (1978) frequently referred to his theory of Bounded Rationality as "procedural rationality", emphasizing a shift in focus from outcomes to the attempt to understand the process of decision-making.

Despite Rational theory's failure to predict, decision theorists have conceded to its value in some circumstances. According to Perrow's (1986) critical interpretation of Simon and March's theory of human behavior in organizations, some aspects of organizations remain stable and therefore may

be amenable to applications based on linear models. Departing from the phenomena of uncertainty and ambiguity assumed by Bounded Rationality, Perrow states that in many large commercial, governmental (such as the military), and voluntary organizations, the top administrators identify closely with the organization's objectives, even if the rest of the organization's members may not. Therefore, the organization's formal goals, objectives, and activities remain relatively stable (March, 1978).

Other sources or mechanisms of stability in the organization are the routinization of activities through the establishment of programs, standard operating procedures, and guidelines. These serve as decision rules in a relatively stable environment (Ivancevich et al., 1977; Perrow, 1986). For example, in military settings, many processes, such as flight paths, weapons and vehicle maintenance and operations, and special ceremonies are directed by standard operating procedures in order to better ensure accuracy and precision. As mentioned, however, such standardized instructions do not exist to guide a commander's response to spouse abuse.

Empirical literature on Rational decision theory. Researchers from both management and psychology have empirically tested the effectiveness of linear models in various situations (e.g., academic selection and prediction, clinical diagnosing, and business forecasting). These studies approached the decision-making process by attempting to understand how people combine information to make evaluative decisions. The combining process was typically

conceptualized in terms of an additive linear model in which components (i.e., information cues or predictors) were added together to form an overall, optimal evaluation. Consequently, linear regression techniques were commonly used to approximate the decision-maker's cognitive processes (Einhorn, 1971).

In general, the results of the empirical literature demonstrate that under certain conditions (e.g., if requisite environmental elements and personal abilities are present), linear models retain their value to the decision maker. For example, Goldberg (1971) tested classical decision theory by comparing various mathematical models (linear, logarithmic, and exponential) with nonlinear models (conjunctive and disjunctive) as potential representations of actual clinical judgments made by 29 psychologists. He compared the models with psychologists' judgments of 861 psychiatric patients as being psychotic or neurotic based on the patients' profiles on the Minnesota Multiphasic Personality Inventory (MMPI). Findings from the study revealed that the proper linear model (defined as one in which the weights given to the predictor variables are chosen in such a way as to optimize the relationship between the prediction and the criterion) provided a better representation of actual judgments than all of the other models tested.

Dawes (1979) presented evidence from the literature on psychological judgment that supported the effectiveness of improper linear models. Dawes defined an improper linear model as one in which "...the weights are chosen by some nonoptimal method. They may be chosen to be equal,...on the basis of the

intuition of the person making the prediction, or...at random" (1979, p. 572).

Although this article attested to the utility of linear models based on Rational theory, the author recognized the value of incorporating human qualities into the decision rule, as opposed to a strictly statistical formulation.

Accordingly, Dawes (1979) borrowed from Simon's writings to provide theoretical support for her assertions. She reported that her search of the literature in clinical judgment failed to reveal any studies in which human judgment was shown superior to statistical prediction when both were based on the same codable input variables. However, she made an important distinction between understanding and prediction. She claimed that people—especially the experts in a field—are better at *selecting* information than *integrating* it. That is, a statistical model can integrate information in an optimal manner, but it is the individual (judge or clinician) who chooses the variables. Further, it is the human judge who understands the logical directional relationship between the predictor variables and the criterion of interest. Therefore, proper linear models are effective at integration when the predictions have an equally-weighted relationship with the criterion. If it is not possible to achieve equal weights—because of insufficient sample size or if the criterion variable cannot be measured, as in a future long-term variable—then improper linear models can provide a viable alternative.

According to Dawes (1979), *bootstrapping* is one way to build an improper linear model. The process involves building a linear model based on an expert's

judgments about an outcome criterion. This model is then used in the place of the judge. Because the bootstrapping model uses weights derived from human judges, and not from the relationship between the predictor and criterion variable themselves, the resulting model is said to be improper. Dawes contended that bootstrapping was effective because, unlike a pure linear model, it does not distill out judgments affected by context or extraneous variables. Bootstrapping was actually a precursor to combining "intuition" with formal models (Kleinmuntz, 1990).

Dawes (1979) reviewed five studies that used different modeling methods to obtain prediction validities (i.e., correlations) in various settings, such as predictions of student GPA, predictions of faculty ratings, and predictions of neurosis versus psychosis in psychiatric patients. She found that in all of these studies, bootstrapping outperformed (meaning it predicted the decision that was known to be made) the average validity of the actual human judgments. Additionally, a random linear model was constructed, in which weights for the predictors were chosen randomly, except for the sign (the logical relationship between the predictor and the criterion). This model worked nearly as well as bootstrapping, but not as well as the equal-weighting model (proper linear model).

Dawes' article provided evidence that supports the Rational theory of decision-making. Her review advanced the literature on linear decision-making model by suggesting incorporation of concepts that emerged from theories

involving the human element in decision and judgment (Einhorn & Hogarth, 1981; Simon, 1957). Dawes called for increased accountability to the people we serve through our decisions. To ignore a model that has proven its effectiveness—even if it may cause discomfort in “reducing people to mere numbers” (1979, p. 581)—would be negligently cheating those we serve.

Linear models were more recently tested by Blattberg and Hoch (1990). These researchers conducted an empirical study that tested both Rational decision theory and emerging concepts of intuition in decision theory by examining the effectiveness of simple database statistical models in combination with managerial intuition. Again, this approach served to move the field further since Dawes' call to incorporate human factors in linear models. This study explicitly embraced both inputs and proposed a deliberate joining, rather than resisting one or the other.

The researchers sought to determine if the combination would outperform either of these decision functions in isolation. For the “manager” component of the formula, five different business-forecasting situations were examined. The overall results supported the combination of model and manager with an average increase of 16% in variance explained (R^2) above the best single decision input.

In sum, a review of the literature on Rational decision theory (and its accompanying models) shows that it holds a firm place in decision-making. The research results demonstrate that linear models (especially those that

incorporate input from expert judgment) can be utilized as effective decision aids, particularly in situations where standardization is desired. Rational decision theory provides a means by which to conceptualize the use of a predictable, standardized decision-making process for military commanders to simplify the inherent complexities of spouse abuse cases.

Theory of Bounded Rationality

In his seminal work Administrative Behavior (1957), Simon challenged traditional axioms that dominated explanation of decision making in organizations. These axioms, developed during the first half of the 20th century, were based on the Rational theory of decision-making and the Weberian model of organizations. The decision maker was seen as a rational actor operating in a highly structured and ordered, hierarchical bureaucracy. Simon, however, argued that the key to understanding organizations is to understand the people within them, thereby viewing the organization as a problem of social psychology. Therefore, viewing organizational behavior as comprised of the behavior of human beings (influenced by their own psychology) allowed Simon to depart from the extant rational theories of organizational decision-making.

Recognizing the value of this perspective, Simon, an economist, urged the economic and organizational sciences to espouse the contributions of their sister social sciences, particularly those from psychology, sociology, and political science (Simon, 1978, 1979). In more recent literature, Laroche (1995) continued to support this view by proposing that decisions and decision-making

are best viewed as social representations: "...they influence organization's members' ways of understanding and behaving in organizations. They influence processes, they facilitate action, and they give meaning to what happens in the organization" (p. 62).

Simon's (1957) model assumes that individuals are only "intendedly rational" (Perrow, 1986, p. 121). They try to be rational, but their limited cognitive and computational capacities and those of the organization prevent them from getting near rationality. There are three main ways that a person's rationality is thus "bounded": first, people do not have complete knowledge of the consequences of their choices (there will be unanticipated and unintended consequences of action); second, people either typically do not have perfect knowledge of all alternatives available to them, or they cannot or do not afford the time to search for such knowledge (instead, they satisfice); and third, when faced with several alternatives, people have difficulty ranking them by preference, in part because people have trouble speculating upon and weighing the consequences of multiple alternatives against each other. Moreover, within the organization, the individual makes decisions "...subject to the influence of the organized group in which he participates. His decisions...not only [are] the product of his own mental processes, but also reflect the broader considerations to which it is the function of the organized group" (Simon, 1957, p. 102).

The organization influences an individual's decision process through various methods. The division of labor limits the range of decisions for which a

person is responsible. As mentioned, standardized practices and programs, while aiding in the decision process, also limit individual input. The authority system sets and changes the decision priorities. Communication channels either impede or facilitate information flow in the decision process. Finally, training and indoctrination serve to deliver implicit and explicit statements of the organization's values and priorities upon which decisions are based (Simon, 1957, 1979).

Theoretically, the resultant individual decision is adapted to the organization's objectives. Although this depiction may represent the status quo, March (1978) cited several studies that showed that the goals of the organization did not predict individual decision outcomes. That is, individual decisions conflicted with organizational intent due to problems with goal ambiguity, relevance, or differences with the individual's interests or values.

Many of these concepts are relevant to the current focus on commanders' decision making. The military is a classically hierarchical organization characterized by the bureaucratic features described above. While these structural features can be of use to the decision maker and to preserve the overall equilibrium of the organization (Perrow, 1986), they can be problematic in the decision process if the organization's goals are uncertain or if the individual and organizational goals are in conflict. For example, in responding to spouse abuse offenders, if the organization lacks clear objectives on this issue or if the stated objectives are in conflict with the individual commander's values,

then the decision process reflects the beliefs, values, and interests of the individual. The individual commander then resorts to a process of search and satisficing based on his/her definition of the situation (Simon, 1978). The end result may or may not be congruent with the organization's intent; but the established hierarchy (i.e., delegation of authority) may camouflage all but the most severe incongruencies. Currently, the military officially states it is against family violence. That the military allows commanders total latitude on most of these decisions conforms to the writings of March and Simon that describe an organization run by less than purely rational decision makers.

Behavioral decision theory. Decision theory had a parallel development in the psychological sciences simultaneous to that found in the organizational sciences. The respective discipline's members have not held the perspectives and research findings from either discipline in competition; rather they have enjoyed a mutual appreciation and harmonious accommodation (see Starbuck, 2001, for an historical review). Behavioral theorists, such as Einhorn and Kleinmuntz, participated in the development of Rational theory by empirically testing linear models of decision, as discussed. Additionally, Hogarth (1980) and Einhorn and Hogarth (1981) proposed concepts that reinforce and build on Simon's theory of Bounded Rationality. Behavioral theory of judgment has helped to broaden the application of these concepts beyond the organizational decision maker.

Unique contributions to the literature by behavioral decision theory are

the concepts of task representation, context, and the information processing capabilities of the individual (Einhorn & Hogarth, 1981). Task representation, similar to the "problem space" (Newell & Simon, 1971), refers to the individual's cognitive representation of the decision task. Behavioral decision theory is concerned with how the process of representation occurs and the factors that affect it. Acknowledging the role that goals play in determining judgment, behavioral theorists stated, "Knowledge of how tasks are represented is crucial since people's goals form part of their models of the world" (Einhorn & Hogarth, 1981, p. 60). The concept of task representation relates closely to that of the commander's perceived role in responding to a domestic violence offender: a commander who perceives that his/her role includes parental-type responsibilities (i.e., having a part in shaping a troop's character) will have a different representation of the task (i.e., decision) situation than a commander who perceives his role as strictly supervisory in nature.

Empirical studies have shown the sensitivity of judgment to minor changes in tasks (Einhorn, Kleinmuntz, & Kleinmuntz, 1979). These results illustrate the importance of context in understanding decision behavior. In behavioral decision theory, context refers to both the formal structure and the content of a task. This consideration aligns well with concepts of Bounded Rationality, which take into account environmental influences. Moreover, it is contrasted with normative (linear) models, which gain their generality and power by ignoring content and treat decision problems out of context. Content, though,

provides substantive meaning to decision tasks and behavioral theorists joined Simon in contending that this element should not be ignored in research efforts to predict and evaluate decision behaviors.

Context is also a function of an individual's information processing capabilities. These are characteristics such as prior experiences and biological limitations on attention and memory. The behavioral scientists emphasize the role these factors have on learning, and thus the decision process. Simon referred to these characteristics as computational limitations, which inherently serve to bound an individual's rationality (1982). For example, if an individual experiences favorable results from a choice, then that choice may be made again given similar circumstances in the future (and it may be made more quickly than the first time, given the prior success). Further, if a person's attention or memory capabilities are impaired or limited (due to time or resources constraints, or other psychological stressors), the requisite and available information may not be adequately processed for a sound decision to be made. Kleinmuntz (1990) noted overconfidence as another cognitive phenomenon that limits people's information processing capabilities. Overconfidence may lead to overweighting of the importance of occurrences that confirms a person's hypotheses about the decision situation. This results in their ignoring or choosing not to collect information that may not support their hypotheses. For example, a commander may choose not to obtain medical information on the victim if it will negate his/her hypothesis that the offender is not physically

abusive.

Research literature on Bounded Rationality. Uncertainty is a key element in the theory of Bounded Rationality. However, it is recognized that uncertainty is a perceived phenomenon and is therefore, a subjective construct. Empirical research has sought to adequately measure perceptions of uncertainty in order to test this aspect of the theory. Using the successive categories method, Gifford, Bobbitt, and Slocum (1979) tested the psychometric validity of Conrath's paradigm for the overall meaning of uncertainty. The paradigm suggests that uncertainty is conceptualized as a combination of the lack of knowledge about the environment, alternatives, and consequences. With a sample of 84 college students and 7 decision theory instructors, the validation assessment indicated that the three dimensions did accurately measure various levels of uncertainty; but that no one dimension was more powerful in determining perceptions of uncertainty. The study also included a laboratory exercise with 56 randomly selected student volunteers. The decision exercise tested a hypothesis that stated an individual's tolerance for ambiguity would moderate her/his perceived level of uncertainty. The findings did not support this hypothesis.

The results make important conclusions about the role of uncertainty in decision-making: knowledge of the environment, alternatives, and consequences are equally relevant elements of uncertainty. Moreover, a decision maker's level of tolerance for ambiguity does not necessarily predict perceived uncertainty. In

other words, even though an individual may have a high tolerance for ambiguity (e.g., many military leaders are trained to cope with the "fog of war"), that, in and of itself, does not guarantee a low level of uncertainty and therefore, the consequent ability to make a rational decision.

Other concepts associated with the theory of Bounded Rationality, such as search and satisficing, have been researched through qualitative designs. Satisficing refers to the idea that the decision maker will search for alternatives only until an alternative that exceeds some minimum aspiration level is found. Given the nature of these concepts, a direct observational method has been employed in order to gain insight into the individual's actual decision process.

Search patterns and satisficing strategies have been explored through verbal protocol methods. Payne (1976) examined the information processing strategies of six "college-aged" subjects who were given varying information cues upon which to choose a particular apartment. Results from protocol analysis showed that given only two alternatives, all subjects considered the same amount of information about the alternatives. However, given a multialternative choice situation (6 or 12 different apartments), all subjects utilized a search procedure that resulted in a greater number of cues examined for some apartments than for others. This strategy, referred to as elimination-by-aspects process, was proposed by Payne as a way in which people seek to reduce the amount of information processing in complex decision-making tasks.

Similar results were found by Klein (1983) in a verbal protocol analysis of

eight graduate students in business. Comparable to Payne's (1976) study, protocols revealed that multistage strategies predominated decision patterns: the participants found the most utility in using decision strategies that eliminated information involved in complex tasks compared to simpler tasks. Comparable quantitative research has empirically tested such strategies, referred to as the "lens model," i.e., how an individual weights the cues in a decision task (see Kleinmuntz, 1990, for a review).

The tenuous support for the satisficing concept in Bounded Rationality from qualitative studies still needs validation through more stringent quantitative methods. In a similar vein to the decision tasks in the studies reviewed, a commander who must respond to a domestic violence scenario faces a complex decision situation due to multiple disciplinary options and to the domestic violence situation itself. Therefore, satisficing may be a probable strategy used by these decision makers warranting quantitative evaluation methods.

Intuitive Decision Making and Use of Tacit Knowledge

Recent formulations of decision theory have argued for the increased emphasis of subliminal or unspoken processes in the decision maker. Although Simon (1957) discredited absolute rationality, then prevalent in economics, he maintained a largely sequential, cognitive view of decision-making. Underlying much of the work of Simon and that of many theorists who followed his lead, has been the view that decision-making is a boundedly rational process converging sequentially from the stage of problem definition toward that of final choice.

Langley et al. (1995), critical of rational theories of decision-making as being excessively “cerebral,” stated: “...’decisions’ have been described as discrete and concrete phenomena driven by rational—albeit bounded—minds, stripped of affect, insight, and history” (p. 260).

The conventional conceptions of decision-making may have maintained prominence with researchers because a sequential process can be dissected and measured more easily than relatively intangible concepts like “intuition” or “creativity.” However, in doing so, Langley et al. (1995) warn that the concepts of “decision” and the decision process as decomposable elements tend to become only figments of the *researchers’* conceptions, or artifacts of their methods. Consequently, these authors identified three limitations of the mainstream theories: reification, dehumanization, and isolation.

Reification refers to the idea that a concept (i.e., “decision”) exists in reality and can be clearly identified. In science, we are cautious to avoid reifying concepts like “prejudice” and “ego” because it limits our definitions and, therefore, valid measurements of them (Rubin & Babbie, 2001). Again, reification may be for the researcher’s convenience—if it exists, then it can be measured and “understood.” Current theorists argue that decision should be viewed as a construct, often useful but sometimes misleading. Moreover, organizations frequently act without a clear trace to the point of decision, due to standardized procedures, spontaneity, or creativity (Langley et al., 1995). For a contrasting discussion highlighting the advantage of treating “decision” as a practical reality,

see Laroche (1995).

According to Langley et al. (1995), dehumanization is a second limitation of the rational decision theories. This is the view that decisions unfold sequentially, oblivious to individual differences and devoid of human emotion and imagination. Although Bounded Rationality and behavioral decision theory acknowledge the individual's past experiences and computational limitations, they do not speak to how imagination and creativity affect the decision process. The alternative perspective argues that the organizational decision maker plays a central "...role as a *creator*, an *actor*, and a *carrier* of decisional activity" (p. 267).

Langley et al. (1995) identified isolation—the assumption that decision processes can be isolated from one another and from much of the organization's collective reality—as the third limitation of conventional decision theories. However, this literature review shows that such an assertion may be unfounded. As previously discussed, Simon deliberately advocated for viewing the organization as a problem of social psychology (1957, 1979). In so doing, he accepted the inherent interrelated nature of human interaction in organizational settings. Also, behavioral theories of judgment discuss in detail the concept of context in the decision process (Einhorn, 1980). Finally, Laroche (1995) proposed that decision and decision-making are social representations. He cited numerous dimensions, such as politics, tenure, temporal horizons, speed, decision styles, and cultural variations, as constituting the social context of

organizational decision-making. Laroche (1995) cites numerous research studies that have empirically supported many of these variables as comprising the social representation of an organization.

Given the gaps in the rational conceptualizations, an alternative perspective proposed by contemporary decision theorists appeal for a richer conception of the organizational decision maker. Rather than proceeding merely as the linear unfolding of sequences of decomposed stages, decision-making processes are also driven by the emotion, imagination, and memories of the decision maker. Hence, the role of intuition (Brochmann & Anthony, 1998) is formally incorporated into the theory. As opposed to Simon's rational administrative man, a kind of "*extrarationality*," beyond conscious thought, is viewed as more effective and perhaps more rational than conventional rationality. Therefore, these authors argue for the addition of the "...insightful man [contrasted with Simon's rational man], who listens to the voices emanating from his own subconscious...who sights the images that well up in his own imagination" (Langley et al., 1995, p. 268).

Tacit knowledge in decision-making is closely related to intuition. Brochmann and Anthony (1998) proposed that the relationship can be viewed as a tacit knowledge inventory: a reservoir of implicit knowledge (gained through experience and memory) that may be accessed, or made explicit, with intuition or mental imagery. In a more recent article by Simon (1987), he also alluded to the concept of tacit knowledge in decision-making by arguing that the essence of

intuition lies in the organization of knowledge for quick identification. He stated, "Intuition and judgement—at least good judgement—are simply analyses frozen into habit and into the capacity for rapid response through recognition" (p. 63).

The decision literature has integrated the contributions of rational theories with the newer concepts of intuition and tacit knowledge by advocating for their *deliberate* combination, instead of debating the superiority—and thus exclusive use—of one over the other. Kleinmuntz (1990) cited numerous studies, which clearly demonstrated human judgment being modeled and outperformed by formulas. While noting the apparent superiority of analytic models, he also saw a deficiency in using them exclusively in clinical applications: "...the clinician is necessary so as to perceive, integrate, synthesize, and hence *intuit* [italics added] a theory of the person being assessed" (p. 297). Moreover, Grove and Meehl (1996) pointed out that complex decisions entail *integrating* complex patterns of information cues. This is the ability of the judge to see the gestalt of the situation without knowing the underlying formula. While models can combine relevant information, they cannot detect the "essence" of the whole.

Organizational researchers have drawn similar parallels to medical diagnostic situations by citing complex decision tasks in management settings (Blattberg & Hoch, 1990; Langley et al., 1995). Thus, the current state of the decision literature promotes the use of decision aids and the cultivation of intuition in as many decision situations as possible. A domestic violence scenario with a commensurate disciplinary response is sufficiently complex to

warrant such a combination of decision strategies.

Recent research has progressed with modeling the combination. A continuum has been described that states there are tasks that are better responded to with intuitive skills and other tasks that lend themselves to analytic reasoning. At the intuitive pole, the tasks require rapid, unconscious data processing that combines available information by simple averaging. It has low reliability, but is more accurate. Analysis, at the other end, is relatively slower, conscious, and deliberate, but its reliability and accuracy are higher. It entails aggregating information by using organizing principles that are more complicated than averaging. The central task for the decision maker is to determine where the decision situation falls on the continuum and then to use the appropriate skills accordingly (Brochmann & Anthony, 1998; Kleinmuntz, 1990; Simon, 1987).

Although the continuum concept helped move the literature forward, it still has difficulties because most decision tasks do not fall to one pole or the other. Daake's matrix model (Brochmann & Anthony, 1998; Daake, 1995) improves on the continuum image as it classifies decision makers based on their relative *emphasis* on using tacit (intuitive) or analytic (codified) knowledge. The decision maker need not use only one exclusively. Therefore the matrix model incorporates all decisions requiring both forms of knowledge.

Daake's model can operationalize a commander's disciplinary decision-making process when faced with a spouse abuse offender. This type of complex

decision situation may require the use of both tacit knowledge and analytical skills. That is, analytic skills may be necessary to collect and summate all available pieces of objective, explicit information about the case. Tacit knowledge skills may help the commander to integrate the information into a complete and meaningful picture, particularly if there are limitations on time or information availability. The emphasis of each skill will vary with the specific elements of the case, the commander's individual characteristics, and environmental influences.

Empirical literature on intuition and tacit knowledge in decision making. After several years of discussion in the conceptual literature, the roles of intuition and tacit knowledge in decision-making are emerging with more prevalence in the empirical literature. Blattberg and Hoch (1990) performed an empirical study to test the effectiveness of a combination of database models and managerial intuition. The results showed that the combined heuristic significantly outperformed either decision input in isolation.

Given the inherent difficulties in measuring intuition empirically, the researchers developed a novel approach to quantify the intuition concept. Essentially, they conceptualized intuition—assuming that experts have valid intuition in certain job situations—as “...that part of subjective judgment that contains the intuition” (Blattberg & Hoch, 1990, p. 890). They isolated intuition by quantifying it as the residual portion of the manager's prediction, after controlling for the predictor variables (i.e., environmental information cues). They

then used this quantity in the analytic equations that regressed the manager's predictions onto the model's predictions. This research provides an important contribution to the body of literature by devising a way to empirically operationalize and test the opaque concept of intuition. Future research should attempt to replicate Blattberg and Hoch's (1990) formulas to strengthen the validity of their approach.

The role of tacit knowledge has been researched in managerial decision-making across various business settings by Giunipero, Dawley, and Anthony (1999) and Bennett and Anthony (2001). Results from both studies demonstrated that managers and executive board members use both formal data and tacit knowledge in nearly equal amounts, supporting the findings by Blattberg & Hoch (1990). In one of the studies (Giunipero et al., 1999), the research hypothesis stating that older and more experienced managers would use more tacit knowledge was *not* supported by the data. This finding was incongruent with the literature (Brochmann & Anthony, 1998; Simon, 1957). A possible alternative explanation for the finding was an overly homogeneous sample (i.e., 48% had over 20 years experience); hence the authors recommended further study comparing senior managers with new hires. Also, from a theoretical perspective, it is possible that seniority may predict the use of tacit knowledge (as opposed to, or in addition to, formal data), but not the degree to which it is used.

Overall, findings from the empirical research on intuition and tacit

knowledge in decision-making support further study. The literature clearly indicates that decision researchers should examine ways to enhance the decision process by including tacit knowledge skills with formal models. This review has shown that failure to do so would be remiss by avoiding significant elements of the human judgment process. Examining military commanders' use of intuitive and formal analytic skills could lead to a comprehensive understanding of their decision-making processes in complex domestic violence scenarios.

Conclusion and Integration

A military commander's perceived role in spouse abuse cases, sex-role egalitarian attitudes, seniority, severity of abuse, and level of operations tempo were conceptualized as influencing decision-making style and decision outcome. An integration of the role, structural, and decision theories suggested that commanders' decision making in spouse abuse cases is influenced by how they perceive their role, particularly in the absence of explicit policies governing their behavior in such circumstances. In addition, commanders' role definitions may be largely influenced by psychological factors, such as their sex-role egalitarianism attitudes (i.e., related to their beliefs about patriarchy and oppression), and by the severity of abuse. Finally, seniority may influence how commanders define their role and consequently how they make decisions on spouse abuse cases. For example, commanders with more seniority may have found through experience that one way of defining their role (and decisions

based on it) is more effective than another. Figure 1 depicts the theoretical model with all proposed hypothesized relationships.

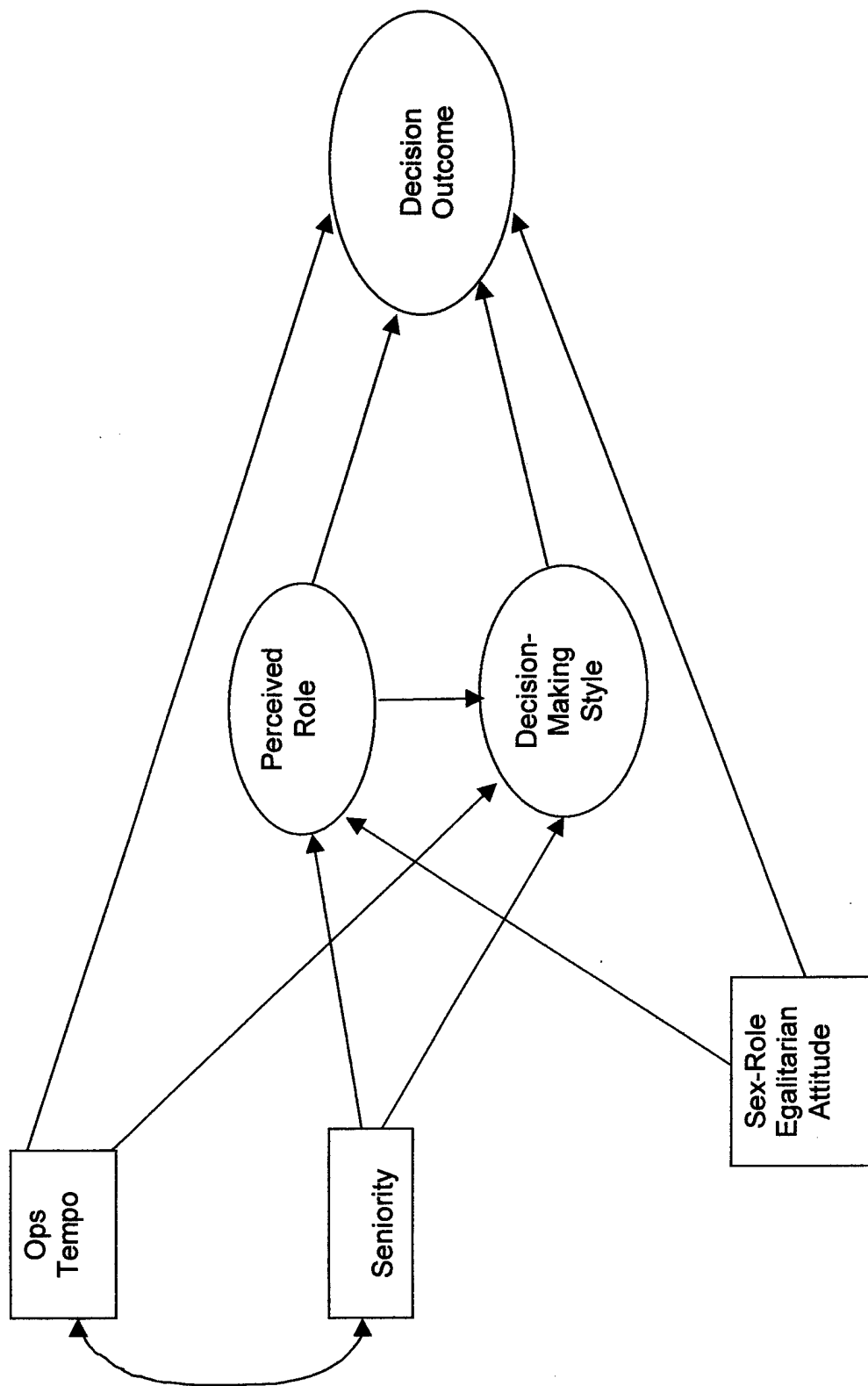


Figure 1: Proposed Theoretical Model

CHAPTER 3

METHODS

Research Questions and Hypotheses

This study sought to answer four specific research questions:

Research Question 1

To what degree do the commander's perceived role, sex-role egalitarianism attitudes, and squadron operations tempo explain decision outcome in both mild-moderate and severe abuse cases?

The following hypotheses for this question were tested:

1. In both mild-moderate and severe abuse cases, commanders who perceive their role as mentor-parental (i.e., "hands-on") will more likely choose more stringent disciplinary options than commanders who perceive their role as primarily supervisory (i.e., "hands-off") and only within the limits of the operational mission. "More stringent disciplinary options" are defined as any option from a letter of counseling through an Article 15.
2. In both mild-moderate and severe abuse cases, commanders with stronger egalitarian attitudes toward sex roles will more likely

choose more stringent disciplinary options than commanders with weaker egalitarian attitudes toward sex roles.

3. In both mild-moderate and severe abuse cases, commanders whose squadrons have a higher level of Ops Tempo will more likely choose less stringent disciplinary options than commanders with a lower level of Ops Tempo. High Ops Tempo is defined as having members who deploy for 182 or more days out of the past 365 days.

Research Question 2

To what degree do the commander's squadron operations tempo, seniority, and perceived role explain decision style?

The following hypotheses for this question were tested:

4. Commanders whose squadrons have a higher level of Ops Tempo will more likely exhibit a decision style characterized by using tacit knowledge than commanders with a lower level of Ops Tempo.
5. Commanders with more seniority will more likely exhibit a decision style characterized by using tacit knowledge than commanders with less seniority.
6. Commanders who perceive their role as supervisory (i.e., "hands-off") will more likely exhibit a decision style characterized by using tacit knowledge than commanders who perceive their role as mentor-parental (i.e., "hands-on").

Hypotheses 1-6 were tested with both multiple regression and structural equation modeling analyses. Multiple regression was used first to determine the unique contribution of the variables in a general linear model context (Tate, 1998). Structural equation modeling (SEM) was then used to simultaneously test the entire model to determine causal relationships among all variables in a multivariate context (Mueller, 1996). The SEM analysis was also useful to confirm and/or refine results of the multiple regression analysis, given SEM's more rigorous assumptions and thus, more robust results than multiple regression. Further justification for the choice of these statistical techniques is described in the Data Analysis section of this chapter (pp. 79-82).

Research Question 3

Are the commander's seniority and sex-role egalitarian attitudes causally related to perceived role?

The following hypotheses for this question were tested with SEM:

7. Commander's seniority has a direct and negative influence on perceived role.
8. Sex-role egalitarian attitudes indirectly affect decision outcome through their direct and negative effect on perceived role.

Figures 2 (p. 65) and 3 (p. 66) diagram the proposed hypothesized relationships in research questions 1-3 among variables for decision outcome in Vignette 1 (mild-moderate abuse) and Vignette 2 (severe abuse), respectively.

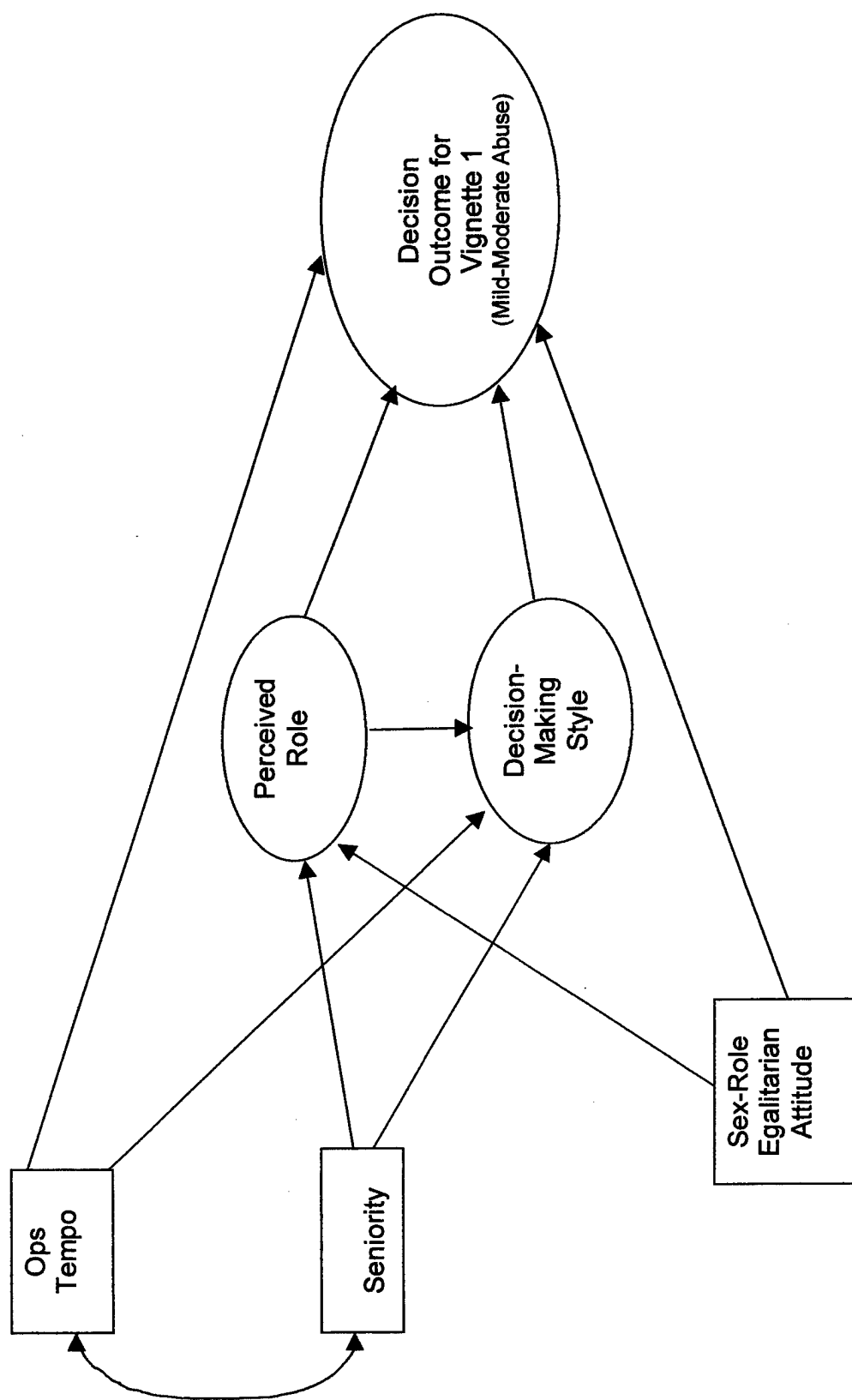


Figure 2: Hypothesized Model for Mild-Moderate Abuse Vignette

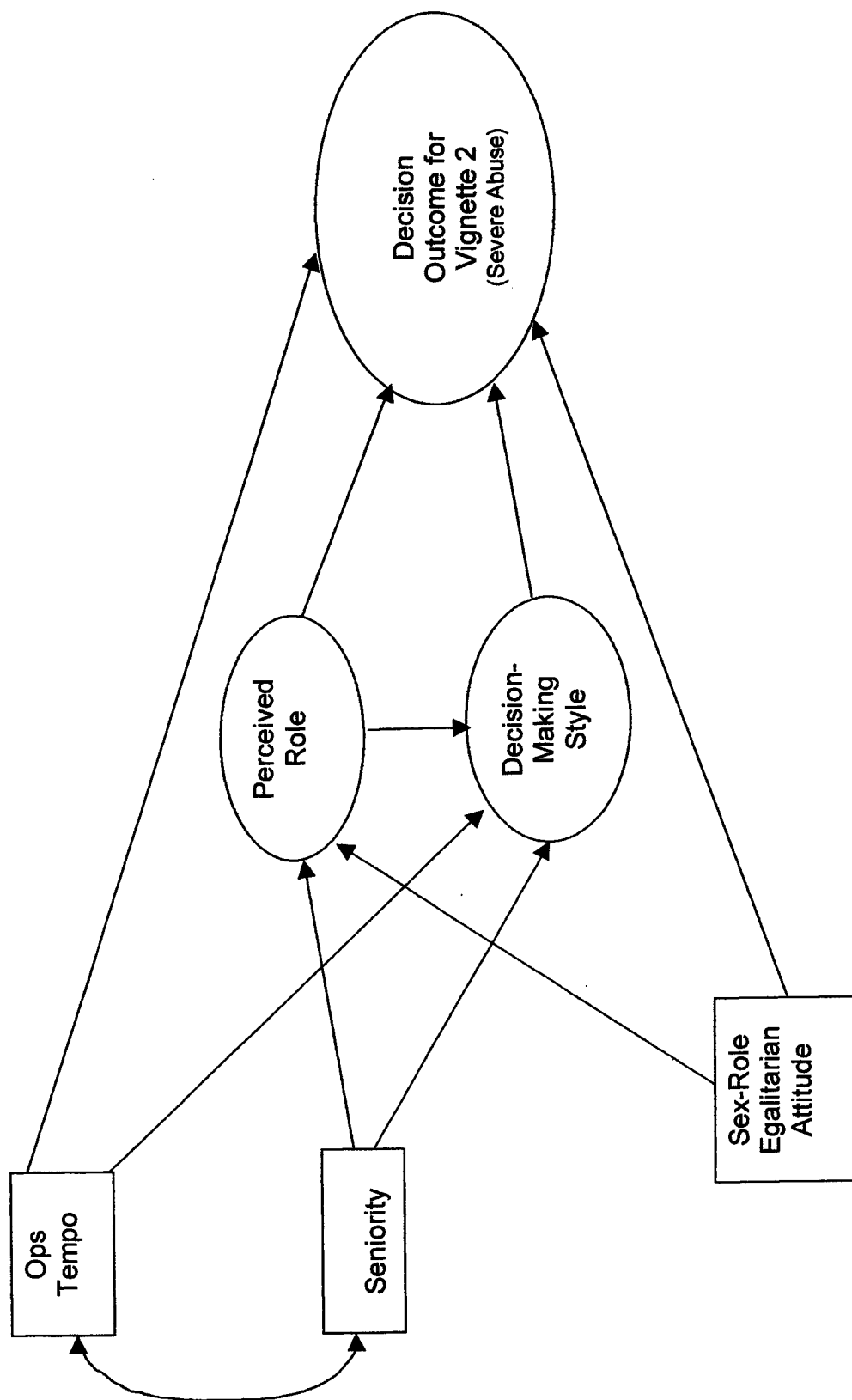


Figure 3: Hypothesized Model for Severe Abuse Vignette

Research Question 4

As a group, will commanders' response variability in decision outcome differ across cases with varying degrees of abuse severity?

The following hypothesis for this question was tested with the MANOVA

Box's M test of equal variance:

9. There will more likely be significant variability in responses to decision outcome in a mild-moderate abuse case (Vignette 1) when compared to a severe abuse case (Vignette 2).

Methods

Purpose

The purpose of this study was to examine the impact that both individual and organizational variables had on a commander's decision-making style and decision outcomes when responding to an offender substantiated for spouse abuse.

Design

A survey design was used to answer the research questions and test the hypotheses posed in this study. Since these questions have not been addressed in the empirical literature before, a survey design was sought to capture a broad, initial picture of the phenomenon of interest. A survey is useful to obtain information from a sample of respondents in order to describe or explain the characteristics of the population under study (Dillman, 2000; Salant

& Dillman, 1994). Moreover, since the population of interest is located globally, a survey design provided data in the most cost-effective and time-efficient manner feasible. Finally, given the sensitivity of the research topic, a survey design provided the anonymity and privacy needed to maximize candid responses.

The study was principally explanatory in nature. That is, the research aimed to test directional hypotheses (based on theory and related previous literature) formulated to explain the phenomenon of interest (Pedhazur & Schmelkin, 1991). However, because it was the first of its kind, this study also provided important descriptive information. Descriptive data can aid in further explanation (i.e., beyond the variables under examination) and to guide future research.

Sampling and Data Collection Procedures

Population and Sampling Frame

The population of interest was Air Force squadron commanders. Since the researcher is an active duty member of the Air Force, accessibility to an Air Force population was more feasible than to other service branch populations. The squadron commander was the unit of analysis as this is typically the level of supervision where decisions on most spouse abuse offenders are made. With respect to assumed demographic characteristics, the majority of the commanders was assumed to be male and at the rank of either Major or Lieutenant Colonel. In terms of educational level, it was also assumed that the

majority of the commanders are Masters prepared, at a minimum.

The sampling frame consisted of approximately 1200 squadrons worldwide and was obtained from the Air Force Personnel Center. For sampling purposes, the population sampling frame was adjusted to 1000 squadrons in order to account for the possibility of invalid elements (Babbie, 1998). Reasons for invalid elements were occurrences such as squadron de-activations or organizational realignments since the sampling frame was published (Major P. Wilson, personal communication, March 27, 2001). Inclusionary criteria for the sampling frame were: the squadrons should be activated at the time of the study, have a routine operational mission (i.e., not special missions, such as recruiting or training squadrons), and located on a major Air Force installation. Reserve and National Guard squadrons were excluded, as well as squadrons in deployed or remote locations as most tours of duty in these areas are typically performed unaccompanied (i.e., without family members).

Sample Size Computation

A formula for calculating required sample size that considered structural equation modeling (SEM) with latent variables, one of the data analysis techniques used in this study, yielded the following: 1. The most conservative approach required 10 subjects per parameter estimated in the model (Schumacker & Lomax, 1996). 2. For confirmatory factor analysis (the first component of SEM with latent variables), the number of model parameters estimated = the sum of the number of covariances of the latent variables (10),

the number of factor loadings (7), and number of measurement error variances for each factor (7). Thus, $10+7+7 = 24$; $24 \times 10 = 240$. 3. For SEM, the number of parameters estimated = the sum of all variances (4) and covariances of the exogenous variables (6), all path coefficients (11), and all variances (3) and covariances (3) of the equation errors (Tate, 1998). Thus, $4+6+11+3+3 = 27$; $27 \times 10 = 270$.

A systematic sampling procedure with replacement was used until a sample of 662 nonredundant elements (i.e., squadrons) was obtained. The study over-sampled to compensate for missing data, non-responses, etc.

Data Collection

The surveys were mailed to a sample of active and operational Air Force squadrons. Since officers rotate through command positions, the survey was sent to the squadron and to the attention of the serving commander, rather than to a specific commander by name. No monetary incentive was offered for participation. An endorsement for the study from general officers was not sought, on the advice given by the Chief of the Survey Branch of the Air Force (C. Hamilton, personal communication, June 27, 2001). Rather, the researcher mailed a self-endorsed lead letter to all commanders in the sample, notifying them of the study, explaining its purpose and importance, and alerting them of the survey's pending arrival.

Given the sensitive nature of the study's topic, stringent action was taken to ensure anonymity of the officers who agreed to participate. Agreement to

participate was implied by the commander completing and returning the survey. These terms of consent were explicated in the survey cover letter. No effort was made to code the questionnaires in a way that would distinguish from which commander or which squadron the survey response came.

Respondents who agreed to participate were mailed a packet, which included a cover letter that also served as an informed consent, the survey instrument, and a postage-paid return envelope. The content of the cover letter was finalized after the proposal was reviewed and approved by the Florida State University Institutional Review Board and commensurate Air Force reviewing agencies (see Appendix A for approval documents). Completed surveys were mailed to the FSU School of Social Work Office of Research and Development. Data was entered by the researcher. The time line for the study was slightly ahead of that proposed: the lead letter was mailed on August 20, 2001; the survey packet was mailed one week later; and a reminder/thank you postcard was mailed ten days after the survey packet was mailed. The survey had a requested return date of September 30, 2001.

Previous surveys of Air Force commanders have had return rates averaging between 35– 40 percent, using only one mailing, and lead and cover letters of endorsement from key members of the chain of command (L. Datko, personal communication, October 10, 2001). A second mailing was not conducted as the power required by the power analysis (see above) was obtained by the return rate from the first mailing.

With respect to non-response error, the researcher assumed—from a theoretical and experiential standpoint—that the profile of possible non-responders would be commanders who do *not* take administrative or disciplinary action against spouse abuse offenders. In an attempt to further describe non-responders and explain the impact of non-response error on the response results, the survey asked responders to report the number of times they took action against offenders within the past six months.

Measurement

Sex-Role egalitarianism. The Sex-Role Egalitarianism Scale (SRES) (Beere et al., 1984; King & King, 1993) is a paper-and-pencil instrument that measures attitudes toward the equality of women and men across various domains of adult life. The measured construct, sex role egalitarianism, has been defined as "...an attitudinal propensity to make judgments about others independent of their gender" (King, King, Gudanowski, & Taft, 1997, p. 222). That is, one who espouses a sex role egalitarian perspective accepts both women exhibiting traditional male role behaviors and men exhibiting traditional female role behaviors. Theoretically, an egalitarian individual would not be susceptible to gender bias.

Accumulated evidence supporting the validity and reliability of the SRES was summarized by King and King in 1993. Across several studies, internal consistency estimates were between .94 and .97, and alternate forms reliability and test-retest reliability both yielded estimates from the upper .80s to low .90s.

Regarding validity, findings from a series of studies suggests that the SRES detected individual differences accounting for the manner in which judgments were made about men and women in various populations, such as police officers (Stith, 1990) and psychology and business students (King & King, 1983). Also, the SRES has yielded low correlations with measures of social desirability (Beere, 1990), suggesting that the SRES is not sensitive to social desirability responses, an important consideration for this study given the sensitivity of the topic. In a study by King, King, Carter, Surface, and Stepanski (1994), the SRES has also shown acceptable convergent validity when compared with other gender-related measures, such as the widely used Attitudes Toward Women Scale (Spence & Helmreich, 1978). Recent tests reported enhancement of construct validity and the dimensionality of the SRES via confirmatory factor analysis (King et al., 1994; King et al., 1997).

Two subscales—marital roles and social-interpersonal-heterosexual roles—were used in this study. Of the five subscales (marital, parental, employment, educational, and social-interpersonal-heterosexual roles), the marital roles and social-interpersonal-heterosexual roles subscales were the most appropriate to the purpose of this research. Also, given that the survey included other measures, two subscales were chosen as a practical consideration to avoid excessive respondent burden (Dillman, 2000). Each subscale consists of 19 items, scored on a 5-point (strongly agree to strongly disagree) Likert scale with higher values indicating a greater endorsement of sex-role egalitarian attitudes.

Alternate forms reliabilities for the subscale scores ranged from .84 to .88 (Beere, 1990).

Since the SRES was not developed as a clinical instrument, it is not presently intended to categorize individuals. That is, there are no set cut-off scores that classify individuals as “very traditional” or “highly egalitarian.” Therefore, the proposed study used the normative information on the SRES to base and test the hypotheses with respect to sex-role egalitarianism. Average scores for the marital and social-interpersonal-heterosexual subscales across 4 studies are approximately 76 and 72, respectively (King & King, 1993). Thus, for the purposes of this study, “stronger egalitarian” attitudes were defined as subscale scores higher than these means; while “weaker egalitarian” attitudes were defined as scores falling below these means. In this study, the performance of psychometric properties of each subscale was presented separately in order to compare against existing estimates. However, for the purposes of inferential statistical analysis, the two subscales were summed to create one composite score. This summated score represented an overall measure of attitudes about egalitarianism in marital and social-interpersonal-heterosexual relationships.

Decision-making style. A commander’s decision-making style was measured by the Decision-Making Scale (DMS) (Daake, 1995). The DMS is a paper-and-pencil instrument designed to measure the constructs of tacit knowledge and intuition used in work related decision-making. It asks the extent

to which an individual uses explicit (i.e., external), concrete information or implicit (i.e., internal) knowledge when making important decisions in the work environment. The most recent reliability estimates for the DMS yielded a Cronbach's alpha coefficient of 0.65, an acceptable level of internal consistency for non-clinical applications and initial stages of psychometric development (Hudson, 1982; Nunnally & Bernstein, 1994). This reliability estimate is based on an original 19 items that were subjected to a step-wise reliability analysis and a 6-iteration item-total correlation analysis. After the analyses, 6 items were deleted and 13 items were retained that measure tacit knowledge/intuition use in decision making. The items are scored on a 5-point (strongly agree to strongly disagree) Likert scale with higher values indicating more use of tacit knowledge in decision-making. The 13-item unidimensional scale was then subjected to exploratory factor analysis (varimax rotation with seven iterations). This analysis yielded 4 factors, which accounted for 61.9 percent of the total variance (Giunipero, Dawley, & Anthony, 1999).

The 13-item instrument was used in this study in addition to 9 items from the original item pool that measure use of rational decision making style. These nine items were reverse-scored to be consistent with the 13-item scale's scoring scheme. The total 21 items created an overall unidimensional scale, with higher scores indicating agreement with using an intuitive decision making style. With permission from the author, the instrument's scoring scale was increased from a 5- to a 6-point Likert scale in order to increase power and to remove the neutral

point (Nunnally & Bernstein, 1994). This study also analyzed this version of the DMS for re-validation, given adequate response rates and reliability estimates for the study's sample.

Perceived role. This variable was measured by 14 researcher-constructed items that attempted to capture how commanders perceive their role in responding to spouse abuse cases. The construct of perceived role is defined as having two dimensions: mentor-parental and supervisory. A commander who ascribes to the mentor-parental role is one who believes their role in spouse abuse cases includes being closely involved in responding from an administrative/disciplinary position, rather than delegating the response decision to a subordinate officer. The mentor-parental role also reflects a commander's endorsement that they should prioritize this aspect of their job (i.e., responding to spouse abuse offenders) as much as routine operational duties. Finally, this dimension reflects the belief that it is the commander's duty to shape the character of their troops from a moral and/or legal standpoint. Conversely, the supervisory role reflects beliefs that it is not the commander's role to become closely involved in these cases, rather it is acceptable to delegate administrative/disciplinary decisions to a subordinate. Commanders who espouse the supervisory role would prefer to focus more on their role as a leader in the operational mission, rather than getting involved in the personal lives of their troops.

Items measured the degree to which commanders agree with statements

that reflect a mentor-parental role versus statements that reflect a supervisory role. Items were scored on a 6-point (strongly agree to strongly disagree) Likert scale. The item scores were summed with higher values indicating a role perception oriented more toward a supervisory role (reverse scoring was used for the mentor-parental role items).

Operations tempo (Ops Tempo). This variable was measured by one researcher-constructed item that asked commanders about their squadron's Ops Tempo. Ops Tempo is defined as:

the amount of time members of the armed forces are engaged in their official duties, including duties at a location or under circumstances that make it infeasible for a member to spend off-duty time in the housing in which the member resides at their permanent duty station (Headquarters Air Force, 2001).

The Air Force currently measures the degree of Ops Tempo by the number of individuals who meet criteria for a "high-deployment days member": a member who has been deployed 182 days or more out of the preceding 365 days (High Deployment Tempo Policy, Secretary of the Air Force, 2000). Therefore, this study measured the degree of Ops Tempo in a squadron by asking about the percentage of total squadron personnel assigned who met the criteria for high deployment days at the time of the study.

Seniority of commander. This variable was measured by two researcher-constructed items that asked the total number of months the respondent has served in a squadron commander capacity (i.e., length of time in the current post as well as any previous assignments as squadron commander).

The two items were summed for an overall index of seniority.

Decision outcome/severity of abuse. These variables were measured by two researcher-constructed written vignettes. The vignettes described two case scenarios typical of spouse abuse cases in the Air Force. One vignette depicted a case that unambiguously describes severe abuse; the other depicted a case that involves mild-to-moderate abuse and was less clear in its description. The respondent was asked to read the vignettes and then respond to ten options that depicted typical administrative/disciplinary decisions commanders are authorized to take when responding to a spouse abuse offender. The options were listed in increasing order of severity, creating an interval level of measurement. For each option, respondents were asked to report their likelihood of choosing that option on a scale from 1 to 7, with 1 indicating a low probability of choosing that option and 7 indicating a high probability of choosing that option. Higher total scores indicated the probability of choosing more severe options overall. Option 1 ("No Action") was reverse-scored.

After each vignette, respondents were asked two open-ended questions in an attempt to capture information not readily obtainable through conventional quantitative items. One question asked respondents to report which disciplinary options they would choose in combination. The second question asked the commander to report any option that s/he would choose that was not already contained in the survey. Finally, one item in the demographics section of the

survey asked how many times the commander actually took administrative/disciplinary action against a spouse abuse offender in the past six months. This question was an attempt to create descriptive profiles of responders versus non-responders.

The entire survey instrument was piloted in order to obtain time approximations (i.e., time required to complete the survey), and initial reliability and validity estimates. The pilot focus group was comprised of eight military officers. The officers were selected based on having current or previous experience that deemed them eligible to appraise item construction and content, thereby providing a preliminary assessment of face and content validity of the researcher-constructed items. Additionally, the vignettes were piloted on two senior Air Force social workers to ensure integrity of the vignette content and consistency with current abuse definitions. Adjustments to items, vignettes, scoring schemes, and formatting were made based on the pilots' findings for the final version of the survey.

Demographic variables. Due to the sensitive nature of this study and the population of interest, demographic variables were kept to a minimum in order to maximize anonymity. Therefore, only age, gender, marital status, and time in service were asked of the respondents. See Appendix B for a copy of the survey instrument.

Data Analysis

The first three research questions sought to discern both the explanatory

degree and causal relationships among the variables of interest. Thus, both multiple regression and structural equation modeling (SEM) for latent variables analysis procedures were used.

The multiple regression model is appropriate when the goal of a study is improved understanding of a phenomenon hypothesized from theory to be determined by several causal variables (Tate, 1998). This study met, or was robust to, the assumptions of multiple regression. The sample size was adequate for normality; and a systematic sampling procedure met requirements for the correct fit and constant variance assumptions. The independence assumption was met since a random, globally-located sample was not susceptible to contextual effects, nonrandom sampling, or repeated measures (Tate, 1998). With respect to the exact IV assumption, the statistical literature states that multiple regression is robust to moderate violations. That is, in practice, researchers assume robustness provided the instruments demonstrate reliability coefficients of 0.8 or higher. The SRES subscales meet this criterion. Some of the other measures did not and are cited as a limitation of this study (see Table 2).

The entire model was then tested with the structural equation modeling (SEM) for latent variables procedure to test for causal relationships among the variables in a multivariate context. This procedure has many benefits that are not available through conventional regression analyses. First, SEM allows for the estimation of direct, indirect, and total structural effects, whereas regression

can only estimate direct effects between variables. This is a valuable benefit, particularly in social/behavioral research when it is highly likely that variables can co-vary following a non-reductionist theoretical approach. In addition to having a direct effect on the dependent variable (DV), an IV can also have an indirect effect on the DV through its effect on an intervening variable that is positioned earlier in the path model based on theoretically hypothesized relationships. For example, the seniority of the commander may affect decision outcome directly, but also have an indirect effect on outcome through perceived role. Second, in most SEM situations, estimation techniques such as maximum likelihood or generalized least squares are preferred over the ordinary least squares method since they allow for the analysis of models involving latent variables and non-zero error covariances across structural equations. These conditions result from violations to the exact IV assumption. Since this study used measures that were not yet validated, SEM accommodated this deficiency and allowed for continued data analysis (Mueller, 1996).

The SEM for latent variables consisted of two stages. First, a confirmatory factor analysis was performed to estimate and test the hypothesized measurement model for all variables considered latent. In this study, the following variables were considered latent, i.e., not directly observable: perceived role, sex-role egalitarianism, decision style, and decision outcome. The hypothesized model explicitly stated which observed variables (i.e., the measures) are caused by each latent variable, but the model in this

stage made no statements about causal links among the latent variables.

Once an acceptable measurement model was obtained, the analysis moved to the second stage. This involved incorporation of the measurement model into a full SEM with latent variables that tested hypothesized causal links among the latent variables. Identification was required in order to ensure that sufficient variance/covariance information from the observed variables was available to uniquely estimate the unknown parameters of the model. This study tested a recursive model (i.e., one-way causal flow) that was, by definition, identified (Mueller, 1996; Tate, 1998).

The fourth research question asked whether there was significant variance in the dependent variables. This question was answered with the Box's M test, which tests for the assumption of equal variance commonly used in multivariate analysis of variance procedures (Hair, Anderson, Tatham, & Black, 1998; Tate, 1998).

CHAPTER FOUR

RESULTS

Introduction

This chapter reports the results of the study and analysis of the survey data. The chapter is organized as follows. The survey return rate and method of response are reported first. Descriptive statistics of the sample respondents are reported second. Preceding the bivariate and multivariate analyses results, procedures used to address missing values are briefly described. Bivariate correlations of all variables are reported third. Fourth, hypothesis testing for all research questions are reported via the results of multiple regression, structural equation modeling, and multivariate analyses. Fifth, a short report of additional findings from the four open-ended survey items is presented. The chapter concludes with the results of the re-validation analysis of the Decision Making Scale (Daake, 1995).

Survey Return Rate

A total of 624 surveys were mailed, after 38 elements in the sample list were determined to be duplicates or inactivated squadrons since the sampling frame was published. A single mailing resulted in 331 mail surveys returned and

35 surveys completed online, yielding a total of 366 surveys returned for a final return rate of 58.65 percent. This return rate is notably higher than the Air Force's average rate of 35-40 percent (Mr. Lou Datko, personal communication, October 10, 2001). The return rate exceeded the minimum requirements set forth by the power analysis, which mandated a range from $n = 240-270$ (see Chapter 3). No subsequent mailings were conducted for a variety of reasons: (1) the requirements for the power analysis were met; (2) monetary and time resources were not practically conducive for a second mailing; and (3) the data collection phase was in the final stages when the September 11, 2001 terrorist attacks on the United States occurred. This event was seen as holding real potential for confounding any subsequent data and results due to a history threat to internal validity (Cook & Campbell, 1979).

Descriptive Statistics

Table 1 (p. 85) summarizes the demographic characteristics of the sample respondents. Because some respondents did not complete all of the demographic questions and such values are inappropriate for imputation, the sample size varies slightly across items. The following comparisons are made to determine the general representativeness of the respondent sample to the Air Force overall. Average demographics specific to only squadron commanders could not be obtained. Thus, the comparisons are based on demographics obtained for all Air Force commanders holding one of the Field grade ranks (Major through Lieutenant Colonel), a typical rank structure for squadron

Table 1: Sample Characteristics

Variable	N	%	Mean	SD	Range	Min	Max
<u>Age</u>	361		41.04	4.14	30	29	59
<u>Gender</u>	362						
Male	301	83.1					
Female	61	16.9					
<u>Marital Status</u>	362						
Married	324	89.5					
Single	16	4.4					
Separated	3	.8					
Divorced	19	5.3					
Widowed	—	—					
<u>Time in Service</u>	361		18.56	3.68	27	6	33
<u>Squadron Type</u>	345						
Flying	50	14.5					
Support	264	76.5					
Medical	30	9.0					

commanders (Air Force Personnel Center Demographics Database, 2001).

The average age of the survey respondent (41.04 years) was slightly younger than the Air Force average age for Field grade commanders (42.5 years). Females were over-represented in the respondent pool at 16.9%, higher than the average of 13.27% for Field grade commanders overall. Though the respondent pool was generally representative of the larger population with respect to gender, the difference in cell size for gender groups was still too great

to perform any inferential statistical comparisons. Married respondents (89%) in this study were represented equally compared to the Field grade command population overall (89.23%); while divorced respondents were slightly under-represented at 5.2% and 5.66%, respectively. The study also had a lower percentage of single respondents (4.4%) as compared with the Field grade command population average of 5.09%. A comparison figure for average time in command could not be obtained from the Air Force Personnel databases. However, total time in military service was available. The respondents in this study had just over the command average for total time in service at 18.56 years and 18.25 years, respectively.

The types of squadrons in the responding sample were generally representative of the Air Force overall, with the flying squadrons being slightly over-represented. The operational Air Force is comprised of approximately 11% flying squadrons, 14% medical squadrons, and 75% support squadrons (Air Force Personnel Center, 2001). Of the commanders who returned the postcard indicating their squadron (n = 345), 14.78% were from flying squadrons (n=50), 9% were from medical squadrons (n = 30), and 76.52% were from support squadrons (n = 264).

Missing Values

Two procedures were used to address missing values: listwise deletion and imputation. No established rules exist for conditions necessitating the use of listwise deletion due to variations in data patterns across studies and

concerns over loss of power (Tate, 1998). However, listwise deletion is the most conservative—and thus the most desirable—approach to use if power can be maintained after the subsequent loss of cases. A moderately conservative convention is to set a threshold to consider cases for deletion that have 20% or more missing data overall. This convention was modified in this study to increase its stringency by deleting all cases with 20% or more data missing *from any one variable's scale*. The result was a reduction in sample size from 366 to 322, which still maintained the power needed for multivariate analyses.

The SPSS *Missing Value Analysis* (MVA) 7.5 software program was used to impute the remaining missing values in the final sample (n= 322). This program uses an expectation maximization (EM) technique, which makes inferences assumed based on the likelihood under the normal distribution (Hill, 1997). The imputation approach seeks to use existing information about an individual in order to estimate their missing value. The approach uses both data that exist on the individual and all other cases with complete data to develop a multiple regression equation that predicts the missing value as a function of the existing values. Importantly, this approach also includes a random error term representing the equation error that would also be added to the predicated value (Tate, 1998). In this sense, the EM imputation method is superior to replacement-by-means, for example, because it more closely approximates reality by using more available information and by including an error term.

The results of an EM imputation procedure are valid only if the missing

data have first been determined to be missing completely at random (MCAR). That is, no identifiable pattern or underlying process exists in the missing data that would bias the observed data (Hair, Anderson, Tatham, & Black, 1998). The Little's MCAR test uses the chi-square statistic to analyze the pattern of missing data on all variables and compares it with the pattern expected for a random missing data process (Hill, 1997; Little & Rubin, 1987). If no significant differences (i.e., high p-value) are found, the missing data can be classified as MCAR. The Little's MCAR test for this study resulted in a chi-square statistic = 4694.55 (df = 4675, $p = .417$), allowing a conclusion that the data are missing at random and appropriate for imputation.

Scale Reliability and Univariate Statistics by Scale

The general linear model assumes that measures used in research are reliable and valid (Tate, 1998). Adequate levels of reliability depend on the purpose of the measure, e.g., whether it will be used for explanation, prediction, or classification (Nunnally & Bernstein, 1994; Pedhazur & Schmelkin, 1991). Authorities in psychometric theory suggest that in the early stages of research—as is the case in this study—instruments having "...modest reliability, e.g., .70" can suffice (Nunnally & Bernstein, 1994, p. 265). In the initial stages of analysis, it was determined that the proposed method of scoring the vignettes (i.e., the first four items reverse scored) resulted in inadmissible negative error variances (for the SEM analysis) and unacceptable reliability estimates. As a corrective measure, the scoring was adjusted to reverse-score only the Option 1

("No Action") response, which resulted in legitimate error variances and acceptable reliability coefficients. Table 2 (p. 90) reports the final reliability analysis results and univariate statistics for each scale.

Seniority of commander (a composite of 2 items) and Ops Tempo (1 item) were treated as observed variables and therefore not subjected to reliability analyses. As can be seen from Table 2, only the scale used for Vignette 2 fell below the minimum standard of .70, and is therefore cited as a limitation of this study.

Bivariate Correlations

Table 3 (p. 91) reports the Pearson Product-Moment correlation coefficients among all variables. The results of the correlational analyses presented in Table 3 show that 5 out of the 21 correlations were statistically significant, with 3 reaching significance at the 0.01 level. Despite reaching statistical significance, all five correlations indicated low relationship strength between variables, with values ranging from 0.127 to 0.169 (absolute values). The negative correlations suggest that commanders who perceive their role as supervisory in nature are associated with *non-egalitarian* attitudes and being less likely to take severe action on Vignette 1. The positive correlations suggest: (1) an increase in Ops Tempo is associated with taking severe action on Vignette 2; (2) commanders who perceive their role as supervisory in nature are associated with being more likely to take severe action on Vignette 2; and

Table 2: Univariate Statistics and Scale Reliability Coefficients

Scale	N	Mean	s.d.	Variance	Min	Max	Alpha	Standardized Alpha
Perceived Role	322	25.29	5.76	32.21	13.00	42.00	0.7065	0.7220
Decision Making Style	322	78.65	8.44	71.21	44.00	106.00	0.8158	0.8243
SRES								
Marital Roles Subscale	322	76.88	8.31	69.09	58.00	95.00	0.8788	0.8856
Social-Interpersonal-Heterosexual Roles Subscale	322	68.79	8.65	74.83	43.00	92.00	0.8547	0.8732
Decision Outcome Vignette 1 (Mild-Moderate Abuse)	322	25.13	7.78	60.61	8.00	49.95	0.7304	0.7336
Decision Outcome Vignette 2 (Severe Abuse)	322	35.42	7.65	58.53	20.00	56.00	0.6065	0.5557
Seniority *	322	17.98	15.69	246.06	1.00	108.00	---	---
Ops Tempo *	322	1.60	0.97	0.95	1.00	7.00	---	---

* Observed variables were not subjected to reliability analyses.

Table 3: Bivariate Correlations by Scale (N = 322)

	Ops Tempo of Squadron	Seniority of CC	Perceived Role	Decision Making Style	Sex-Role Egalitarian Attitude	Decision Outcome Vignette 1 (Mild-Moderate Abuse)	Decision Outcome Vignette 2 (Severe Abuse)
Ops Tempo of Squadron	1.00						
Seniority of CC	-.012	1.000					
Perceived Role	-.028	-.043	1.000				
Decision Making Style	.009	-.026	-.050	1.000			
Sex-Role Egalitarian Attitude	.091	.005	-.169**	.084	1.000		
Decision Outcome Vignette 1 (Mild-Moderate Abuse)	.014	.001	-.127*	.073	-.040	1.000	
Decision Outcome Vignette 2 (Severe Abuse)	.133*	-.106	.140*	.56	-.097	.144**	1.000
Mean	1.60	17.98	25.29	78.65	145.67	25.13	35.42
SD	0.97	15.69	5.76	8.44	15.93	7.78	7.65

* p<0.05

** p<0.01

(3) an increase in severity of action on Vignette 1 is associated with an increase in severity of action on Vignette 2.

Results of Hypothesis Testing for Research Questions 1-3

This section reports the results of statistical analyses performed to answer Research Questions 1-3. Research Questions 1 and 2 were tested with both multiple regression and SEM. Research Question 3 was tested only through SEM analyses.

Multiple Regression Analysis

Assessment of assumptions. Prior to formally testing the hypotheses, an assessment of the validity of assumptions for multiple regression was conducted. The plots of the studentized residuals versus the standardized predicted outcome values were examined to assess the distributional assumptions. No evidence of serious violations was found for the correct fit and normality assumptions. A moderate violation of the constant variance assumption was found, but regression coefficients are robust to such violations provided the estimates are being used for explanatory purposes and not for prediction of individuals or classification (Tate, 1998).

The independence assumption was determined to be met after a review of the study circumstances showed no pattern of repeated measures, non-random sampling, or contextual effects. With respect to the exact IV (i.e., independent variable) assumption, "...many researchers implicitly assume robustness to more

modest violations of this assumption when instrument reliabilities are roughly 0.8 or higher" (Tate, 1998). Two of the three scales met this criterion. A moderate violation was found in the perceived role scale, given that its reliability was 0.71. Given that no validated measure existed for this variable at the time of the study, the scale was created by the researcher and thus has not had opportunity for psychometric refinement. Nevertheless, a violation of this type can be remedied with the use of structural equation modeling for latent variables, which was done for the second analysis. Lastly, a case analysis conducted before the regression analyses revealed no outliers with standardized residuals larger than 3.0.

Hypotheses 1-3. This set of hypotheses derived from Research Question 1: To what degree do the commander's perceived role, sex-role egalitarianism attitudes, and squadron's operations tempo explain decision outcome in both mild-moderate and severe abuse cases?

Hypotheses 1-3 tested the effects of the independent variables, perceived role, SREA, and Ops Tempo, on the dependent variable, decision outcome. They were first tested with multiple regression and then with SEM, with a separate analysis conducted for each vignette. Tables 4 and 5 summarize the results of the multiple regression analyses (see p. 94).

Hypothesis 1: In both mild-moderate and severe abuse cases, commanders who perceive their role as mentor-parental (i.e., "hands-on") will more likely choose more stringent disciplinary options than commanders who perceive their role as

Table 4: Multiple Regression Results Summary for Mild-Moderate Abuse Vignette

Variable	Standardized Coefficient	SE	R²	F	p-value
Overall Model			0.02	1.68	0.171
Ops Tempo	0.029	0.435			0.610
Perceived Role	-0.116	0.070			0.041*
SRE Attitudes	-0.062	0.027			0.272

* Significant at the 0.05 level.

Table 5: Multiple Regression Results Summary for Severe Abuse Vignette

Variable	Standardized Coefficient	SE	R²	F	p-value
Overall Model			0.05	5.312	0.001***
Ops Tempo	0.149	0.432			0.007**
Perceived Role	0.140	0.070			0.012*
SRE Attitudes	-0.077	0.027			0.167

* Significant at the 0.05 level.

** Significant at the 0.01 level.

*** Significant at the 0.001 level.

primarily supervisory (i.e., “hands-off”) and only within the limits of the operational mission.

Hypothesis 2: In both mild-moderate and severe abuse cases, commanders with stronger egalitarian attitudes toward sex roles will more likely choose more stringent disciplinary options than commanders with weaker egalitarian attitudes toward sex roles.

Hypothesis 3: In both mild-moderate and severe abuse cases, commanders whose squadrons have a higher level of Ops Tempo will more likely choose less stringent disciplinary options than commanders with a lower level of Ops Tempo.

Results for Vignette 1 (mild-moderate abuse): The test for the overall model for Vignette 1 was not significant ($R^2=0.02$; $F=1.68$, $p=0.171$), despite the individual coefficient for perceived role reaching significance ($p=0.041$). Thus, the null for hypotheses 1-3 cannot be rejected as they relate to Vignette 1 (see Table 4).

Results for Vignette 2 (severe abuse): The overall model was statistically significant at the .01 level ($R^2=0.05$; $F=5.312$; $p=0.001$), with the individual coefficients for Ops Tempo and perceived role reaching significance. However, the direction of both these coefficients was in the opposite direction hypothesized. Thus, although the model and coefficients were significant, hypotheses 1-3 as they relate to Vignette 2 were not supported (see Table 5). Implications for the significance of these findings are discussed in Chapter 5.

Hypotheses 4-6. This set of hypotheses derived from Research Question 2: To what degree do the commander’s squadron’s operations tempo, seniority,

and perceived role explain decision style?

Hypotheses 4, 5, and 6 tested the effects of three independent variables, Ops Tempo, seniority, and perceived role on the dependent variable, decision style. These hypotheses were first tested using multiple regression, then with SEM. Table 6 summarizes the results of the multiple regression analysis (see below).

Hypothesis 4: Commanders whose squadrons have a higher level of Ops Tempo will more likely exhibit a decision style characterized by using tacit knowledge than commanders with a lower level of Ops Tempo.

Table 6: Multiple Regression Results Summary for Decision Making Style

Variable	Standardized Coefficient	SE	R ²	F	p-value
Overall Model			0.007	0.766	0.514
Ops Tempo	0.022	0.454			0.700
Seniority of CC	-0.035	0.028			0.532
Perceived Role	-0.074	0.078			0.190

Hypothesis 5: Commanders with more seniority will more likely exhibit a decision style characterized by using tacit knowledge than commanders with less seniority.

Hypothesis 6: Commanders who perceive their role as supervisory (i.e., "hands-off") will more likely exhibit a decision style characterized by using tacit

knowledge then commanders who perceive their role as mentor-parental (i.e., “hands-on”).

Results: The regression results testing these hypotheses were not significant, leading to a failure to reject the null hypothesis in all cases (See Table 6).

Structural Equation Modeling with Latent Variables Analysis Results

This section reports the results of the SEM analysis for Research Questions 1-3. The hypotheses derived from these questions were tested simultaneously using structural equation modeling (SEM) with latent variables. Each hypothesis represents a causal path within a theoretical model. The model included hypothesized paths leading to both vignettes, which represented two levels of abuse severity (mild-moderate and severe) as the ultimate outcomes of interest. The section below reports the results of the preliminary analysis, confirmatory factor analysis (CFA), and SEM analyses.

Preliminary analysis results. The observed variances and covariances of the indicators of the latent variables in the hypothesized model are given in Table 7 (p. 98). The preliminary analysis revealed no inadmissible results, such as negative error variances or R^2 values over 1. The multivariate normality assumption was assessed with LISREL 8.30 and SPSS Version 10.0.7. The normal probability and studentized residual plots produced by a multivariate analysis was performed with SPSS (Hair et al., 1998; Wulder, 2001), PRELIS 2.3 (a function of LISREL) was used to inspect the histograms for each variable, and to provide tests for other indicators of multivariate normality. These

Table 7: Observed Variances and Covariances by Scale (N = 322)

	Ops Tempo of Squadron	Seniority of CC	Perceived Role	Decision Making Style	Sex-Role Egalitarian Attitude	Decision Outcome Vignette 1 (Mild-Moderate Abuse)	Decision Outcome Vignette 2 (Severe Abuse)
Ops Tempo of Squadron	0.95						
Seniority of CC	-0.09	61.51					
Perceived Role	-0.01	-0.15	0.19				
Decision Making Style	0.00	-0.08	-0.01	0.17			
Sex-Role Egalitarian Attitude	0.18	0.02	-0.03	0.01	0.18		
Decision Outcome Vignette 1 (Mild-Moderate Abuse)	0.01	0.01	-0.05	0.03	-0.02	0.95	
Decision Outcome Vignette 2 (Severe Abuse)	0.12	-0.78	0.06	0.02	-0.04	0.13	0.90

assessments revealed no problematic departures from normal skewness, kurtosis, or homoscedasticity. Additionally, the Box's M test was used as another indicator for multivariate normality. As stated earlier, this test evaluates for the existence of equal variances and covariance among the dependent variables. If this test is significant, it is an indication of unequal variances and a possible violation of the multivariate normality assumption (Green, Salkind, & Akey, 2000). It was not significant ($F=1.151$; $p = 0.144$), which provided more evidence that the multivariate normality assumption was met.

Confirmatory factor analysis (CFA) results. The CFA solution converged in 15 iterations, indicating no serious problems with the covariance matrices. Because each of the latent variables had only one observed indicator (i.e., one scale), the error variance for each scale was set according to the formula: $1 - \alpha (\sigma^2)$. Table 8 (p. 100) reports the factor loadings and the reliability coefficients for the scale level analysis. The magnitude of the validity of the observed indicators as measures of their respective latent variables was indicated by the standardized factor loadings seen in Table 8. The loadings on the scale-level analysis ranged from 0.77 to 0.96, suggesting adequate validity for the chosen indicators as accurate measures of the latent constructs. The reliability of each observed indicator as a measure of the latent variable was represented by the R^2 coefficient. Most of these values were also adequately high, with only the estimates for the perceived role and Vignette 2 scales falling below the minimum standard of 0.70 (Nunnally & Bernstein, 1994). It should be

Table 8: Factor Model Loadings for Scale-Level Confirmatory Factor Analysis

Scale	Standardized Loading	Reliability (R²)
Sex-role Egalitarian Attitude	0.96	0.92
Perceived Role	0.78	0.60
Decision Making Style	0.90	0.81
Decision Outcome Vignette 1 (Mild-Moderate Abuse)	0.85	0.73
Decision Outcome Vignette 2 (Severe Abuse)	0.77	0.60

noted that the perceived role scale reliability estimate from the CFA reported here is lower than that obtained through the conventional reliability analysis performed with SPSS (see Table 2).

With respect to the goodness of fit statistics in SEM, consensus has not yet been reached as to which fit indices should be considered the most valid (Schumacker & Lomax, 1996). Many of the indices contradict each other, some indicating a good data-model fit, some not, depending on whether the index assesses model fit, model comparison, or model parsimony. Therefore, convention dictates that several indices should be reported (Tate, 1998). Such was the case in this study. The values of the major indices are reported herein.

The minimum fit function chi-square statistic was 7763.06 ($p = 0.0$), indicating a rejection of the null hypothesis that the model fits the data (a failure to reject decision is the goal for this statistic). However, many shortcomings of

the chi-square statistic as a formal hypothesis test of data model fit have been noted in the literature (see Kaplan, 1990, for a review). One of the problems with this statistic is its sensitivity to large sample size and the associated high power (Tate, 1998). As Mueller (1996) observes, "...note that as n increases, the test statistic...increases, leading to the problem that plausible models might be rejected based on a significant χ^2 -statistic even though the discrepancy between S [the observed sample variance/covariance matrix] and $\Sigma(\hat{\Theta})$ [the model-implied variance/covariance matrix] is minimal and unimportant" (p. 83).

A solution advocated by Jöreskog and Sörbom (1993) is to informally compare the magnitude of the chi-square statistic to the mean of its sampling distribution. This is given by the ratio of the chi-square value and its associated degrees of freedom, i.e., χ^2/df . Small values, then, indicate a good fit, while large values indicate poor data-model fit. In this study, $\chi^2/\text{df} = 7763/3989 = 1.98$, a value well below a common standard of a minimum 3 or 4 as representing good data-model fit (Mueller, 1996; Tate, 1998). Thus, using this heuristic, adequate data-model fit was concluded.

The Root Mean Square Error of Approximation (RMSEA)—a measure of discrepancy between the reproduced and observed covariances—also suggested a good model fit at a value of 0.059, given that values ≤ 0.08 are considered indicative of good fit and values ≤ 0.05 are suggestive of excellent fit. The p-value of the null that $\text{RMSEA} < 0.05$ was 1.00, also showing good model fit (Tate, 1998).

The following indices are assessed on a 0-1 range, with higher values indicating better fit. The values of these indices for this study suggested a marginal data-model fit: Normed Fit Index (NFI) = 0.44; Non-Normed Fit Index (NNFI) = 0.61; Comparative Fit Index (CFI) = 0.62; Goodness of Fit Index (GFI) = 0.63; and Adjusted Goodness of Fit Index (AGFI) = 0.61. Finally, a detailed fit assessment resulted in covariance residuals larger than 3.0, suggesting misfit that likely did not occur due only to chance. The overall assessment of the various goodness of fit indices indicated an acceptable fit of the measurement model.

Structural equation modeling results. Assuming an adequate measurement model was reached, the analysis proceeded to the structural equation modeling. The preliminary analysis again revealed no problematic outliers, inadmissible results, or serious violations of the multivariate normality assumption.

Results of hypothesis testing. The hypotheses stated below derive from Research Questions 1-3. They are presented in a manner consistent with convention when using structural equation modeling. Hypotheses 1-3 relate to Research Question 1 (see p. 62), hypotheses 4-6 relate to Research Question 2 (see p. 63), and hypotheses 7 and 8 relate to Research Question 3 (see p. 64).

Hypothesis 1: Perceived role has a direct and negative causal influence on decision outcome.

Results: There was a significant effect in the hypothesized direction in the Mild-

Moderate Abuse vignette. Thus, the null was rejected. There was also a significant effect for the Severe Abuse vignette, but not in the hypothesized direction. Thus the research hypothesis was supported for the decision outcome related to the Mild-Moderate Abuse vignette, but not for the Severe Abuse vignette.

Hypothesis 2: Sex-role egalitarian attitudes have a direct and positive causal influence on decision outcome.

Results: This path did not result in a significant coefficient in either vignette. Thus, the null cannot be rejected in either case.

Hypothesis 3: Ops Tempo has a direct and negative causal influence on decision outcome.

Results: This path did not result in a significant coefficient in the Mild-Moderate vignette. Thus, the null hypothesis was supported in this case. There was a significant effect for the Severe Abuse vignette, but not in the hypothesized direction. Thus, despite the coefficient reaching significance, the null hypothesis was supported for the decision outcome related to the Severe Abuse vignette as well.

Hypothesis 4: Ops Tempo has a direct and positive causal influence on decision style.

Results: This path did not result in a significant coefficient in either vignette. Thus, the null cannot be rejected in either case.

Hypothesis 5: Commander's seniority has a direct and positive influence on

decision style.

Results: This path did not result in a significant coefficient in either vignette.

Thus, the null cannot be rejected in either case.

Hypothesis 6: Perceived role has a direct and positive causal influence on decision style.

Results: This path did not result in a significant coefficient in either vignette.

Thus, the null cannot be rejected in either case.

Hypothesis 7: Commander's seniority has a direct and negative influence on perceived role.

Results: This path did not result in a significant coefficient in either vignette.

Thus, the null cannot be rejected in either case.

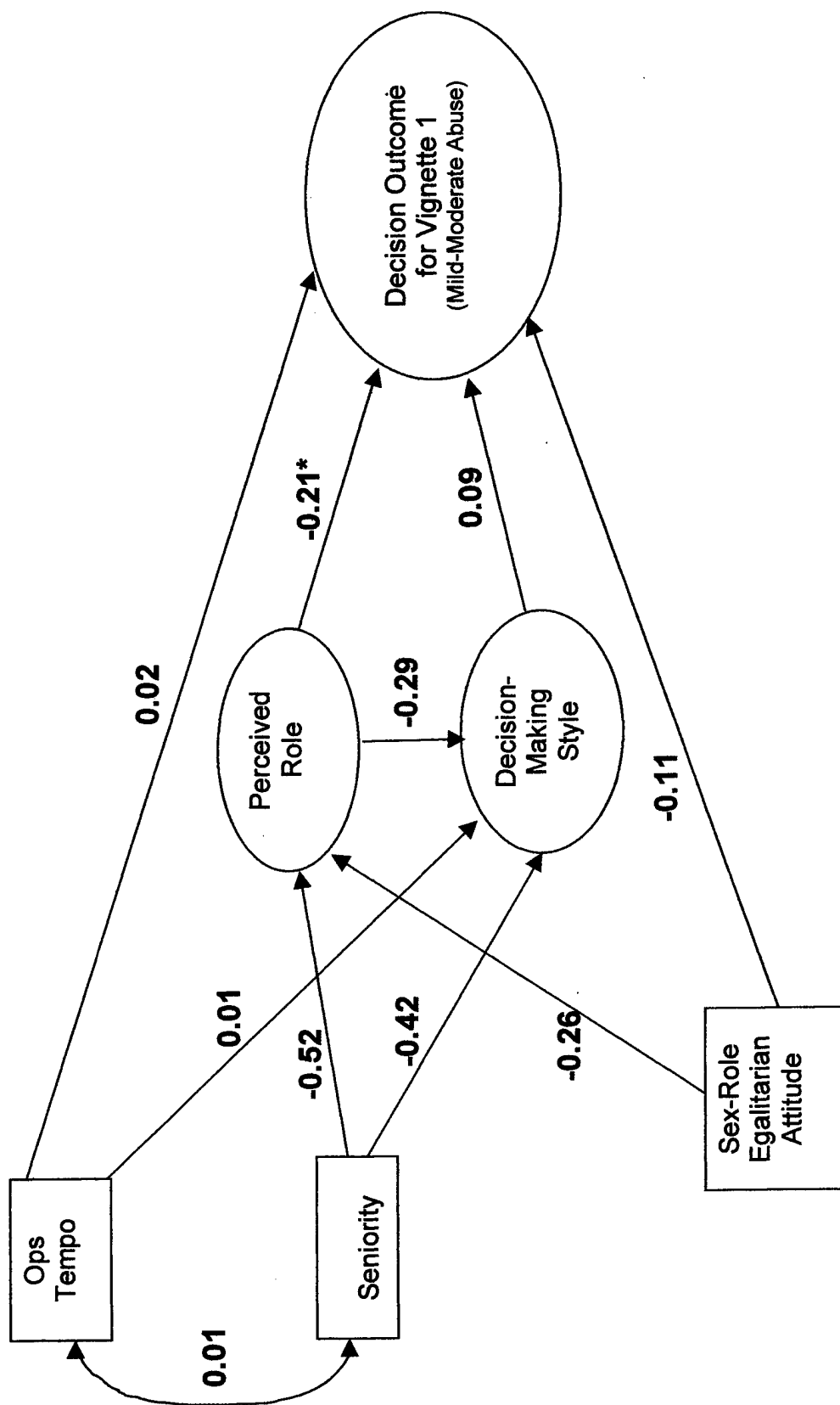
Hypothesis 8: Sex-role egalitarian attitudes indirectly affect decision outcome through their direct and negative effect on perceived role.

Results: This path did not result in a significant coefficient in either vignette.

Thus, the null cannot be rejected in either case.

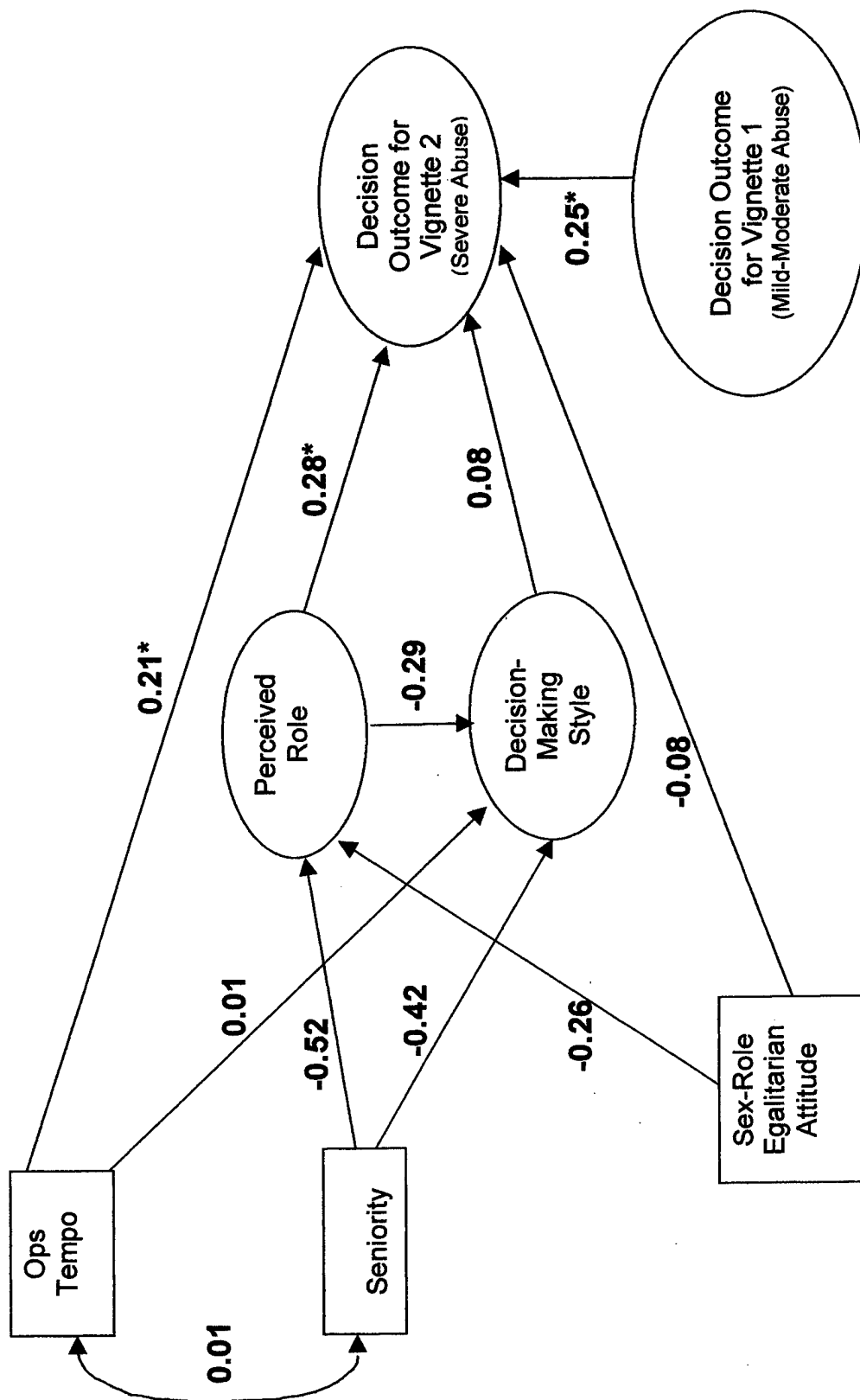
See Figures 4 (p. 105) and 5 (p. 106) for the standardized direct effects estimates among the latent variables for Vignette 1 and Vignette 2, respectively.

Goodness of fit results. The initial model yielded the following results. The global fit indices included a chi-square value of 12.24 ($p = 0.032$), resulting in a failure to reject decision at the 0.01 level of significance (a reject decision would be made at the 0.05 level; but the reader may recall that this statistic should be interpreted with caution due to its sensitivity to large sample sizes).



* Statistically significant

Figure 4: Estimated Standardized Path Coefficients for Mild-Moderate Abuse Vignette



* Statistically significant

Figure 5: Estimated Standardized Path Coefficients for Severe Abuse Vignette

This, along with the chi-square/df ratio = 2.448, suggested a good model fit. The RMSEA had a value = 0.067, with a p-value of the null that $RMSEA < 0.05$ was 0.23. Both of these indices indicated good model fit for the structural model.

The remaining fit and comparative indices were mixed: the NFI (0.76), NNFI (0.0085), CFI (0.76) indicated marginal fit; conversely, the GFI (0.99) and AGFI (0.94) indicated excellent fit. A detailed fit assessment indicated a good data-model fit as there were no standardized covariance residuals greater than 3.0 (Tate, 1998).

The modification indices suggested adding a causal path from Vignette 1 to Vignette 2. Suggested modifications should only be accepted if they can be justified theoretically. This path was justified through principles of cognitive theory, decision theory (particularly Bounded Rationality) and empirical literature on sequential decision-making. These concepts and research findings state that the choices a decider makes in one case (e.g., Vignette 1) can influence those made in subsequent cases (e.g., Vignette 2) due to recency effects and sequential search strategies in terms of optimizing and satisficing, discussed in Chapter 2 (Fishman, 1999; Seidenfeld, 2000; Simon, 1982; Todd & Gigerenzer, 2000). Additionally, the hypothesized direction for this path was that commanders would be more likely to choose harsher consequences in Vignette 2 if they were more likely to choose harsher consequences in Vignette 1. This relationship was consistent with the bivariate correlation found for these variables, offering additional justification for the added path in the causal model.

The modification to the model markedly improved the fit. The global fit indices resulted in a chi-square value of 3.6 ($p = 0.48$). Therefore, the null hypothesis was retained, indicating that the model fit the data. This, along with the chi-square/df ratio = 0.87, suggested an excellent model fit. The RMSEA had a value = 0.00, with a p-value for test of close fit (tests the null that RMSEA < 0.05) was 0.77. Both of these indices indicated excellent model fit for the structural model.

The remaining fit and comparative indices were also suggestive of good model fit: GFI = 1.00, AGFI = 0.98, NFI = 0.93, NNFI = 1.09, and CFI = 1.00. A detailed fit assessment indicated a good data-model fit as there were no standardized covariance residuals greater than 3.0 (Tate, 1998).

The standardized direct effects estimates among the latent variables are depicted in Figure 4 for Vignette 1 and Figure 5 for Vignette 2 (see pp. 105 and 106, respectively). Statistical significance of the causal paths was determined by each estimate's z-statistic reaching a value larger than 2. Only 1 path—the effect of perceived role on decision outcome—was statistically significant for Vignette 1, and was in the predicted direction based on hypothesized theory. It was also suggestive of practical importance (i.e., a value larger than approximately 0.1). With respect to Vignette 2, three estimated effects were statistically significant: the paths from Ops Tempo, perceived role, and Vignette 1 to decision outcome for Vignette 2. The effect of Ops Tempo on decision outcome was in the hypothesized direction, but the effect of perceived role on decision outcome was

significant in the opposite direction hypothesized. The effect of decision outcome for Vignette 1 on Vignette 2 was in the direction hypothesized.

The direct, indirect, and total causal effects among the latent variables are summarized in Table 9 (p. 110). Regarding the mild-moderate abuse scenario (Vignette 1), the largest total causal effect was perceived role (-0.24). Most of this estimate for perceived role was due to the direct effect (-0.21), while the remaining was due to an indirect effect (0.03), mediated by decision-making style. The next largest total effect was decision-making style (0.09), all due to its direct effect. Seniority, Ops Tempo, and SREA all had negligible total effects at 0.08, 0.02, and -0.05, respectively. Only approximately 5% of the variance for Vignette 1 was explained by these five determinants.

Regarding the severe abuse scenario (Vignette 2), the decision outcome for Vignette 1 was the determinant with the largest total causal effect (0.25), all of which was due to its direct effect. Ops Tempo had the next largest total causal effect (0.21), all of which was also due to its direct effect. Perceived role also had a significant effect on Vignette 2 with a direct effect of 0.28 and a small indirect effect of -0.08, mediated by decision making style (resultant total effect of 0.20). SREA, seniority, and decision making style had nonsignificant total causal effects of -0.16, -0.15, and 0.08, respectively. Approximately 18% of the variance for Vignette 2 was explained by these six determinants.

While not reaching statistical significance, the following estimates were obtained for the other latent variables in the model. The largest total causal effect for perceived role was seniority (-0.52), followed by sex-role egalitarian attitude (-0.26). These effects were both due entirely to their direct effects (no other variables were hypothesized to have a possible mediating/indirect effect). Approximately 31% of the variance of perceived role was explained by those two determinants.

For decision making style, the largest total causal effects were perceived role and seniority, with estimates of -0.29 and -0.27, respectively. Most of this estimate for seniority was due to the direct effect (-0.42), while the remaining was due to an indirect effect (0.15), mediated by perceived role. Ops Tempo had only a negligible direct effect (0.01). SREA also exerted a small indirect effect on decision style (0.07), mediated by perceived role. Approximately 14% of the variance of decision-making style was explained by these four determinants.

Therefore, with respect to answering Research Questions 1-3, the following conclusions are made based on the statistical tests of the hypotheses. The multiple regression and SEM results suggest that the perceived role and Ops Tempo variables do explain decision outcome to a statistically significant degree, albeit not in the directions hypothesized. The perceived role variable resulted in statistically significant relationships (i.e., causal paths) with decision outcome, in support of the hypothesized direction in Vignette 1, but against the hypothesized direction with respect to Vignette 2. The Ops Tempo variable also resulted in a significant causal path to decision outcome in Vignette 2, but not in

the hypothesized direction. However, none of the other variables were significantly related to decision outcome, decision style, or perceived role either as direct effects or mediating influences.

Results of Hypothesis Testing for Research Question 4

This hypothesis derived from Research Question 4: As a group, will commanders' response variability in decision outcome differ across varying degrees of abuse severity?

Hypothesis 9: There will more likely be significant variability in responses to decision outcome in a mild-moderate abuse case (Vignette 1) when compared to a severe abuse case (Vignette 2).

Results: The Box's M test, commonly used in MANOVA to test for equality of covariance matrices, was conducted to test whether there was equal variance in the responses to the two vignettes (treated as two metric dependent variables for this hypothesis) (Hair et al., 1998; R. Tate, personal communication, January 8, 2002). This test yielded an F test value of 1.151 ($p = 0.144$), leading to a retention of the null hypothesis.

Therefore, with respect to answering Research Question 4, the statistical results show that there was no significant difference in variability in how commanders, as a group, decided on disciplinary options for a mild-moderate abuse case (Vignette 1) compared to a severe abuse case (Vignette 2).

Additional Findings

The survey included four items that were not incorporated into the conceptual model for formal hypothesis testing. Rather, they were asked in an attempt to capture any additional information not feasibly obtained through quantitative means. Two open-ended questions were asked for each vignette and the results of a content analysis of the responses are reported herein. Since the responses to these items were not standardized, they were not subjected to imputation, allowing for the entire sample to be included (n = 366).

The first question asked commanders how they would choose disciplinary options in combination. For Vignette 1, 251 commanders responded to this question. The most commonly chosen combination was Referral to the Family Advocacy Program and Verbal Counseling (n=62); the second most common combination was Referral to the Family Advocacy Program, Verbal Counseling, and Letter of Counseling (n=35). For Vignette 2, 126 commanders responded. The most commonly chosen combination was Referral to the Family Advocacy Program, Unfavorable Information File, and Article 15 (n=31); the second most common combination chosen was identical to the first combination, with the addition of Verbal Counseling (n=24).

Additional observations based on the responses to the first open-ended question are noteworthy. First, there was more variability in the combinations chosen across commanders for Vignette 2 than for Vignette 1. This observation is contrary to the variability dispersion found in the quantitative analysis, which

showed more variance in the responses for Vignette 1 than for Vignette 2. Second, commanders were nearly twice as willing to choose extra duty as a disciplinary option for Vignette 2 (n=27) than for Vignette 1 (n=14). Third, eight commanders for Vignette 1 and five commanders for Vignette 2 indicated they would determine their response based on the offender's abuse history and whether there was a pattern of increasing abuse severity. Five commanders indicated their response would be dependent on the Family Advocacy assessment. Finally, three commanders stated that their response would be dependent on the offender's display of remorse or admission of guilt.

The second open-ended question asked commanders to state any options that were not already listed after the vignettes. For Vignette 1, 117 commanders responded. The most commonly listed response was a referral to financial counseling (n=43), followed by a referral to the Chaplain (n=29), and a referral to anger management classes (n=23). Eight commanders stated they would institute a no-contact order to separate spouses for a "cooling off period."

For Vignette 2, 83 commanders responded. The most commonly listed response for this vignette was a referral to anger management classes (n=18), followed by a no-contact order (n=14), and a referral to the Chaplain (n=10). An equal number of commanders (n=6) stated they would refer the case to JAG or the civilian police for criminal prosecution. Eight commanders indicated they would refer the couple to marriage counseling. Only three commanders stated they would initiate discharge proceedings based on the severe abuse incident.

Other noteworthy responses to the second question were: For Vignette 1,

five commanders indicated they would want to hear “the other side of the story.” Three commanders stated they would talk with the spouse; while two commanders stated they would want to discuss the situation with the couple together. For Vignette 2, one commander stated he would place the offender in correctional custody if the offender were a junior airman. Interpretations and possible implications for these responses are explored in Chapter 5.

Re-validation Results of the Decision Making Scale

Given the study’s adequate response rate, the Decision Making Scale (Daake, 1995) was re-analyzed for psychometric performance. For this analysis, the data set with imputed values was used (n=322). A visual inspection of the histogram showed a normally distributed response pattern with a mean of 78.65 (suggesting that respondents were more likely to agree with an intuitive rather than a rational decision style) and standard deviation of 8.44. The reliability analysis revealed an increase in the Cronbach alpha coefficient from the previous estimate of 0.65 to 0.82 (Giunipero, Dawley, & Anthony, 1999).

The re-analysis tested the scale’s ability to measure the latent construct of decision making style via confirmatory factor analysis. A generally weighted least squares estimation procedure was employed as the item-level distributions were non-normal and this estimation procedure does not depend on the underlying distribution of the data (Mueller, 1998). Despite the improvement in reliability, the CFA results were mixed, at best. The data converged in 18 iterations and had no negative error variances or R^2 values over 1, indicating no

serious flaws in the data. However, many of the goodness of fit indices were not favorable. The chi-square statistic was reported as 418.33 ($df = 170$, $p = 0.000$), leading to a rejection of the null stating the data fits the model. However, the chi square-degrees of freedom ratio can be considered good at 2.46. The RMSEA resulted in a value = 0.24 (p value that $RMSEA < 0.05 = 0.00$). This is far above the 0.05 – 0.08 target for adequate fit. The GFI and AGFI approached adequately good fit at 0.87 and 0.84, respectively. But the remaining fit indices indicated a poor fit: NFI = 0.24; NNFI = 0.23, and CFI = 0.31. The detailed fit indices reported unacceptably large standardized residuals (any value over 3.00) at -6.34 and 10.51. These residuals represent the distance between the observed data and the model-implied data. The larger the residual, the further the observed data are from a statistically good fit.

CHAPTER 5

DISCUSSION

This study examined factors that were hypothesized to influence military commanders' decision-making processes when responding to substantiated spouse abuse offenders assigned to their units. Concepts from role, feminist, and decision theories were empirically tested to determine the degree to which they explained commanders' decision processes and outcomes in such situations. A survey design was used to gather data from a randomly selected sample of Air Force squadron commanders located at bases worldwide ($n = 364$). Results from both multiple regression and structural equation modeling statistical analyses yielded the strongest support for role theory in the model tested. The findings provided mild support for concepts from decision theory and very little support for feminist theory (i.e., one significant bivariate correlation supported feminist theory).

This chapter interprets the results of the study in relation to existing empirical literature on domestic violence responses and the theoretical literature that provided the conceptual framework for the study. The chapter first discusses research hypotheses which were empirically supported and explores

alternative explanations for those hypotheses which were not supported. Second, implications for theory and practice are suggested. Third, limitations of the study and their possible impact are identified, accompanied by a discussion of methods through which the study could have been improved. The chapter concludes by forwarding suggestions for future research with respect to substantive inquiry and methods relevant to this topic.

Discussion of Hypothesis Testing

Hypotheses 1-3

Hypothesis 1. In both mild-moderate and severe abuse cases, commanders who perceive their role as mentor-parental (i.e., "hands-on") will more likely choose more stringent disciplinary options than commanders who perceive their role as primarily supervisory (i.e., "hands-off") and only within the limits of the operational mission.

Hypothesis 2. In both mild-moderate and severe abuse cases, commanders with stronger egalitarian attitudes toward sex roles will more likely choose more stringent disciplinary options than commanders with weaker egalitarian attitudes toward sex roles.

Hypothesis 3. In both mild-moderate and severe abuse cases, commanders whose squadrons have a higher level of Ops Tempo will more likely choose less stringent disciplinary options than commanders with a lower level of Ops Tempo.

Research hypotheses 1, 2, and 3 were not supported when tested with Vignette 1. While the unique effect of perceived role reached significance, the

overall model was found not significant based on multiple regression analysis. The significant perceived role coefficient lends support for role theory, suggesting that commanders' perception of their role indeed has a real effect on their consequent performance in that role or job. Additionally, that the perceived role coefficient was significant in the direction hypothesized, suggests that "hands-off" commanders tend to refrain from issuing serious consequences in mild-moderate abuse cases. This is consistent with findings solidly documented in the literature that authorities often do not view mild-moderate abuse as violence legitimate enough to warrant meaningful consequences (Barnett et al., 1997; Davis & Smith, 1995; Fagan, 1988).

Neither of the other hypothesized variables, Ops Tempo or sex-role egalitarian attitude, significantly predicted decision outcome in Vignette 1. Sex-role egalitarian attitude was tested to determine the extent to which the commander's agreement about equality of women and men in heterosexual relationships would affect the decision outcome. This variable did reach statistical significance in the bivariate analysis, suggesting a significant association among less egalitarian attitudes and agreement with a more "hands-off" style. However, sex-role egalitarian attitude was not sufficiently strong to be a significant predictor of decision outcome in Vignette 1 when subjected to regression analyses.

The sex-role egalitarian variable was used in this study to operationalize the concepts of patriarchy and oppression of victims. Its failure to result in

significant prediction indicates that such concepts did not exert explanatory influence with this sample and topic. Therefore, an alternative explanation for the lack of evidence for the sex-role egalitarian variable could be that the commander's attitude toward the *offender*, not the *victim*, orients the commander in the decision making process. The perceived role variable reaching significance in predicting the outcome for Vignette 1 strengthens such an explanation as it measured commanders' management style toward the offender, not the victim. Thus, this finding lends support for role theory, while providing refuting evidence against feminist theory.

The test of hypotheses 1-3 with Vignette 2 resulted in a significant overall model, with the perceived role and Ops Tempo variables reaching statistical significance. Since both of these coefficients were not in the hypothesized direction, the null was supported for hypotheses 1-3 with Vignette 2, as with Vignette 1. Perceived role had a negative coefficient, suggesting that an increase in "hands-off" style predicted more serious consequences. A possible interpretation for this finding, taking into account the findings in Vignette 1, is that Air Force commanders who perceive their role as supervisory rather than parental believe mild-moderate abuse cases should be handled primarily by a subordinate (i.e., the First Sergeant), which may explain the findings from Vignette 1. Indeed, several commanders commented on either the survey or the postcard that they would delegate the decision to the First Sergeant or other subordinate, or would rely heavily on the consult of these subordinates

regarding choices of action. Then, only if/when the abuse severity escalates would they as commanders become involved by issuing serious consequences (explaining the findings from Vignette 2).

These findings have additional noteworthy implications. As just mentioned, many commanders stated they frequently delegate the administrative or disciplinary decision to the First Sergeant, a senior non-commissioned officer who has a primary duty to prevent and troubleshoot personnel issues involving enlisted troops. However, First Sergeants are themselves enlisted, and as such, have no authority over commissioned officers. The commanders' recommendation that abuse cases (particularly Vignette 1) should be handled by the First Sergeant assumes that it is primarily enlisted troops who are abusive. While it is true that the vast majority of a typical squadron is comprised of enlisted troops, these comments may suggest denial or avoidance of the possibility that commissioned officers could be guilty of committing spouse abuse. Other implications of these findings with respect to practice and training will be discussed in a later section.

Additionally, the results of this study suggesting that commanders would not take serious action until the abuse is severe may be problematic from a prevention perspective. A recent memorandum signed by the Deputy Secretary of Defense states: "*Commanders* [italics added] at every level have a duty to take appropriate steps to prevent domestic violence, protect victims, and hold those who commit it accountable" (Wolfowitz, 2001, p. 1). If the goal is to

prevent the occurrence or escalation of domestic violence, then the command force itself should be integrally involved *at the onset of known abuse* by sending a clear message (e.g., via definitive administrative/disciplinary action) that such acts will not be tolerated. Implications for social work practice regarding these points will be discussed later in this chapter.

Ops Tempo was not significant in predicting decision outcome for Vignette 1, but did reach significance in Vignette 2. Similar to perceived role in Vignette 2, the findings suggested that an increase in Ops Tempo predicted an increase in severity of consequences chosen by the commander. This result was in the opposite direction of the research hypothesis, which stated an increase in Ops Tempo would lead to a decrease in consequence severity. Perhaps the commanders in this sample believe that severe abuse is a liability to mission integrity and cannot be tolerated when the level of mission intensity reaches a certain threshold. This explanation would be consistent with recent empirical studies demonstrating that decision makers take more severe action with their decisions when the situational risk increases (see, for example, Dror, Busemeyer, & Basola, 1999).

The sex-role egalitarian variable's failure to predict decision outcome in either vignette may represent a broader change and a unique quality of this sample regarding gender equality from that documented in the literature (Barnett et al., 1997; Jowers, n.d.; Leo, 1996). The Air Force strives to be highly sensitive to equal opportunity and sexual harassment issues (although

infractions of these policies still occur). The military's structure with respect to pay rates, recognition of rank, promotion schedules, and occupational opportunities allows for systemic equities that many civilian environments do not enjoy. Moreover, Air Force training indoctrinates leaders to view everyone—male and female—as airmen who should be treated equally, without regard for gender (exceptions being in cases of extreme physical tasks and segregation in close housing quarters, if possible). Decision-making, then, may be based more on training and any applicable rules than on personal biases. Thus, it could be concluded that Air Force commanders may be more versed in egalitarianism when making decisions in the work place.

The unique effects of Ops Tempo and perceived role in determining decision outcome in Vignette 2 were sufficiently strong to result in a statistically significant overall model. These findings may point to the relevance of these factors for commanders, relative to the apparently insignificant influence of other variables tested.

Hypotheses 4- 6

Hypothesis 4. Commanders whose squadrons have a higher level of Ops Tempo will more likely exhibit a decision style characterized by using tacit knowledge than commanders with a lower level of Ops Tempo.

Hypothesis 5. Commanders with more seniority will more likely exhibit a decision style characterized by using tacit knowledge than commanders with less seniority.

Hypothesis 6. Commanders who perceive their role as supervisory (i.e., “hands-off”) will more likely exhibit a decision style characterized by using tacit knowledge than commanders who perceive their role as mentor-parental (i.e., “hands-on”).

The regression results testing these hypotheses were not significant, leading to a failure to reject the null in all cases. The majority of responding commanders reported agreement with an intuitive decision making style (i.e., using tacit knowledge). However, the failure of the independent variables, Ops Tempo, seniority, and perceived role to predict decision making style may be explained by the intrinsic personality and training of a commander, rather than by predictors commonly cited in the literature (e.g., seniority and stress) (Brockmann & Anthony, 1995; Giunipero, Dawley, & Anthony, 1999). Military commanders are expected to be decisive—quickly decisive, if the situation necessitated such skill. Their training serves to constantly reinforce this skill through simulated exercises and real-world situations.

During the pilot study of this research project, a senior Air Force researcher advised the removal of the neutral midpoint in the measurement scales contained in the survey. He based the recommendation on several complaints received from commanders in previous studies, who said they saw no relevance of a midpoint since they were expected to make definitive decisions as commanders (Dr. Thomas Watson, personal communication, June 27, 2001). Therefore, it may be that military commanders use intuitive decision-making

skills as a *rule*, and that such a decision style is not *dependent* on other factors, such as seniority or Ops Tempo. In this way, the results of these hypothesis tests may be strongly sample-dependent, and consequently not representative of the test of these theories and variables in general.

Hypothesis 6 stated an expectation that a “hands-off” role would have a direct causal effect on determining an intuitive decision style. In other words, it was expected that “hands-off” commanders would not get involved in the domestic violence case to the extent of searching for information; rather, they would make decisions using an intuitive approach. When tested with SEM, this path did not result in a significant coefficient in either model (i.e., with either vignette). Thus, the null could not be rejected in either case. It may be that, similar to the discussion above, the decision-making style of military commanders is inherently intuitive and not dependent on how they perceive their role in spouse abuse situations.

Hypotheses 7 and 8

Hypothesis 7. Commander’s seniority has a direct and negative influence on perceived role.

Hypothesis 8. Sex-role egalitarian attitudes indirectly affect decision outcome through their direct effect on perceived role.

With respect to hypothesis 7, it was expected that as seniority increased, perceived role would become more “hands-on.” This path did not result in a significant coefficient in either vignette. While the relationship between

managerial seniority and the use of tacit knowledge has been documented in corporate settings, these findings show that the relationship is seen when the executive has several years of experience on the job (see, for example, Giunipero, Dawley, & Anthony, 1999). Given that the average time in command reported by respondents was only 18 months, it may be that this is insufficient time for seniority to have a significant influence on how a commander defines his/her role in specific situations. It may also be that military commanders are unsure as to how to define their role (i.e., thus looking for external sources or normed responses from the peer group), regardless of seniority in a position.

Regarding hypothesis 8, it was expected that as commanders agreed more with egalitarian attitudes, they would perceive their role as more “hands-on.” This hypothesized direct effect would then in turn have an indirect effect (i.e., mediating effect) on the ultimate outcome of interest, decision outcome. This path did not result in a significant direct effect coefficient in either vignette modeled. A possible explanation for the failure of egalitarian attitudes to have a significant direct effect on perceived role is similar to one stated above for hypothesis 2. That is, commanders’ role perception in responding to spouse abuse cases may be dependent on their perception of their role *with the offender*, not necessarily on their attitudes toward egalitarianism in relationships overall. This may be especially salient given the offender’s direct connection to the mission, as evidenced by the significance of the Ops Tempo variable. Finally, because this path did not result in a significant direct effect, a significant

indirect effect on decision outcome would not be expected.

Hypothesis 9

Hypothesis 9. There will more likely be significant variability in responses to decision outcome in a mild-moderate abuse case (Vignette 1) when compared to a severe abuse case (Vignette 2).

The research hypothesis postulated that commanders would show less variability in their responses to Vignette 2, an obvious case of severe abuse, as compared with the more ambiguous case depicted in Vignette 1. The test of this hypothesis found no statistically significant difference in the variability in responses between vignettes. That is, the variability—or degree of dispersion—of responses to Vignette 2 was not any narrower or wider than that for Vignette 1. This result suggests that commanders responded to cases of obviously different abuse severity in essentially the same manner as a group. Why did the results fail to show a display of definitive action (i.e., a much tighter distribution) across commanders responding to a case of obvious abuse? Perhaps the sample respondents as a group failed to recognize the severity of abuse in Vignette 2.

An alternative explanation may also be found through the concept of role ambiguity. That is, commanders may recognize the behavior in the vignettes as abusive, but still unsure as to how to respond in a manner commensurate with the offense, particularly in cases of severe abuse. This was also evidenced in the open-ended item that asked about combining options: there was more

variety of responses in Vignette 2 compared to Vignette 1, indicating possible confusion about what the best response should be.

Another possible explanation may be peer influence to conform to normed behaviors. There is intense pressure to conform to the norm (Davis, 1996) in a military environment. In general, behaving as a team player and thus garnering the acceptance of one's peers (i.e., to avoid being branded as a dissenter) is critical to both the individual commander's career success and to the success of the military mission overall. Despite independence in the research sample, there may exist informal, tacit understandings of what the "normed" responses to domestic violence offenders should be in cases of varying abuse severity. For example, the measures of central tendency suggested that the normed disciplinary responses of this sample were verbal counseling and unfavorable information file for Vignette 1 and Vignette 2, respectively. Moreover, the lack of variance between vignettes suggests that the commanders responded in a similar fashion as a group, indicating their tendency toward homogeneity. Even though such responses may be normed, their degree of appropriateness may remain questionable. Future studies and training involving input from relevant disciplines should assess the appropriateness of commanders' decisions on various abuse scenarios.

Discussion of Additional Findings

Revalidation of the DMS

The re-analysis results of the DMS may be due to factors specific to this study. For example, the higher reliability estimate may be explained by the increase of the number of items, the increase in the response options, and/or the large respondent sample size. Thus, while the improvement in reliability found in this study is promising, it should be considered sample-dependent. Furthermore, this reliability estimate should not be viewed as a stable characteristic of the scale until it demonstrates consistently similar estimates with other populations (Nugent, White, & Basham, 2000).

A close examination of the items with respect to content validity shows repetitiveness in the items' wording. That is, some of the items attempt to measure the intended concept, but in essentially the same manner. In fact, many respondents wrote critical comments to this effect. Such characteristics may help increase reliability, but fail to enhance the instrument's validity. It may be that the instrument fails to adequately capture the entire domain of interest, i.e., rational versus intuitive decision making styles, explaining the relatively poor results of the confirmatory factor analysis. These findings suggest that the instrument can be refined by expanding the conceptual definitions to include more aspects of the rational and intuitive/tacit knowledge domains. Additional items can then be constructed that reflect these expanded definitions and more fully capture the conceptual domain of the two decision-making styles, thereby

improving the potential for enhanced instrument validity (Nunnally & Bernstein, 1994).

Non-response Error

Both positive and negative implications can be drawn from this study with respect to non-response error. The high return rate for this study, given only one mailing, appears promising. That is, had the study's practical circumstances in terms of time and monetary resources allowed for a second mailing, the return rate could have potentially increased from 58% to up to 87%, based on common estimates for return rates cited in the methods literature (Babbie, 1990; Dillman, 2000). According to seminal researchers, surveys are typically completed and returned only if the respondent is interested in the topic, feels good about the organization, and believes the survey results will lead to real change (Donald, 1960). Thus, a positive comment about this study's return rate (i.e., low non-response error) is that the respondents: do appear to be interested in the effective address of spouse abuse, feel good about the Air Force as an organization to which they belong, and have faith that their input can improve current practices in this area. Moreover, if there had been the opportunity for subsequent mailings, an even stronger endorsement for these statements might have been possible. Nevertheless, in light of this discussion, the existing results suggest that those who did not respond may not believe in the importance of this topic or the Air Force's ability to improve its intervention efforts through information gained from the survey.

Since there were no subsequent mailings, it is not possible to discern any differences in responses between response waves. Future research should strive to have the capacity to conduct repeated mailings so that non-response bias could be examined more thoroughly. Finally, this study asked respondents about their real-world actions when taking disciplinary/administrative action against a spouse abuse offender. The mean response was 1.17 times in the past six months of their command. Because this was the first study to ask commanders about the frequency and nature of their disciplinary actions against spouse abuse offenders, it is not possible to interpret the relative meaning of this finding as high or low because there is no existing empirical data against which to compare it. Future studies should gather similar data so that meaningful comparisons can be made.

It should be noted, however, that this item was problematic in that it included referral to FAP as an option, which is not a true disciplinary/administrative option. While commanders may not have considered referral to FAP as an option when responding to the question (i.e., knowing that it is not a true disciplinary action), it is not possible to definitively conclude this. Thus, this result should be interpreted with caution. Future versions of this survey should refine this item to remove the potential for confused or unintended results.

Based on the result of this item, a possible interpretation with respect to non-response error is that only the commanders who did do *something* were the ones to return the survey. Therefore, it is not possible to know how commanders

who did not choose to take disciplinary action against offender make these decisions or view this topic in general. Such information would be necessary and valuable in order to understand this area of inquiry in its entirety.

Implications for Theory

This study was explanatory in nature and thus empirically tested concepts from role, feminist, and decision theories with primarily quantitative methods. This section identifies the theories that were and were not supported based on the findings, along with a discussion of implications for these theories as they pertain to this area of inquiry.

Role Theory

The findings resulted in the strongest support for role theory. Specifically, the concept of role ambiguity was evidenced by the findings of the perceived role variable and its opposing effect on the two vignettes. Also, many commanders stated they would delegate response decisions to the First Sergeant or other subordinate. These statements are made in light of several policy documents that explicitly identify the commander as responsible to respond. That commanders still report delegation as an appropriate course of action for them implies that they may not know exactly *how* to respond, i.e., how to perform the expectations of this role, or that they may not want to be the ones to actually issue the consequence. There was also large variability in responses to the combination of options items in Vignette 2, suggesting a greater ambiguity as to how to perform the role of a disciplinary figure in the face

of severe abuse.

The concept of norms was also supported by the findings of this study. The lack of significant variance and the relatively small increase in mean scores across vignettes suggests that there may already be a normed response to spousal abuse across Air Force squadron commanders (regardless of severity). Moreover, some commanders commented that they would want to know what other commanders would do. This is not an uncommon phenomenon in practice: legitimacy of our decisions is more readily granted if they are consistent with those of our peers.

These findings suggest that role theory has a legitimate place in explaining phenomena in this area of study. It is worthwhile to recognize the importance of role definitions and the potential consequences if such definitions are not clearly delineated. This is particularly essential with respect to those holding the authority and responsibility to respond to serious situations, like domestic violence. Future research should consider the explanatory power of these concepts when applied to other critical first responders to domestic violence in a military environment, like security police officers, medical authorities, and senior enlisted personnel.

Decision Theories

Decision theories received mild support in this study. Ops Tempo represented the theory of Bounded Rationality, which argues that as stress increases, the decision maker's quality of functioning will erode. However, the

findings suggested a relationship contrary to this theoretical tenet. In Vignette 2, the hypothesized relationship based on this tenet was not found. That is, an increase in Ops Tempo significantly predicted that commanders were more likely to issue serious consequences for a severe abuse case. This finding is interpreted as an intact and situation-appropriate decision process, rather than an eroded one.

An alternative theoretical explanation may be found in the very newly emerging literature on the role of emotions in decision-making under stress (Bechara, Damasio, Tranel, & Damasio, 1997; Damasio, 1994). It could be that emotions help to compensate for the inability to engage in a rational decision process under conditions of stress and time pressure, thereby resulting in an adaptive response. This study's results suggest that when the mission intensity increases (i.e., when Ops Tempo increases), commanders may have a "gut feeling" that an offender of serious abuse is a clear liability to the mission and must be met with definitive consequences. Future research in theory building should continue to examine the productive effects of emotions in decision-making under stress.

The concept of tacit knowledge from decision theory (specifically, intuitive decision theory) was not supported either as a predictor for decision outcome or as a dependent variable with seniority and Ops Tempo as predictors. As discussed, the inherent quality of commanders using an intuitive approach to decision-making or their relative lack of seniority may explain these results. Or,

it may be different variables altogether that produce tacit knowledge skills in decision-making. An exploratory approach may be appropriate to uncover the nature of tacit knowledge and its use in decision-making by military commanders.

To a large degree, the military still follows the principles of Scientific Management (Taylor, 1911). There are explicit rules and guidelines for the process and procedure of many operations and the identification of personnel who will perform them. With respect to an "operation" such as the response to spouse abuse, however, no clear procedural decomposition exists to near the same degree as other mission-oriented tasks. Without a prescribed (i.e., rational) method for response, the situation allows for the influences of Bounded Rationality and intuitive decision-making.

Responding to complex, often-unclear situations involving abusive human behaviors and intense emotions can be a difficult task. The flexibility to exercise one's own judgment, given situational constraints (in terms of stress, time pressures, and limited information), and tacit knowledge may enable commanders to quickly and effectively respond to the unique nuances of individual abuse cases. This approach may also result in an optimal response when victim safety and offender accountability are of concern. Whereas using a pre-determined approach may force a response that could fit poorly for the case that does not conform to the mold. In this way, the lack of adherence to the rigidity of Scientific Management and Rational decision theory may be

advantageous to commanders responding to dynamic domestic violence situations.

An opposing argument is that the absence of existing procedural guidelines results in commanders being left to determine the procedure themselves. Without an external guide for a course of action, internal guides—based on personal biases, attitudes, and the consult of others, if sought—determine decisions. Thus, if not handled properly, a situation of non-accountability for the commander and the offender may result. This has dangerous potential for future violence to the victim and others affected by the abuse. The results of this study strongly suggest that a combination of these theoretical perspectives (Rational and Intuitive Decision theories) may be the best approach to devise a more effective response solution to this problem (Blattberg & Hoch, 1990).

Feminist Theory

Oppression and patriarchy concepts from Feminist theories received only slight support in this study (i.e., one significant bivariate correlation showing a moderate association between low egalitarian attitudes and a perceived “hands-off” role in responding to offenders). The lack of support for these concepts cannot be explained by the possibility of social desirability bias. The sex-role egalitarian scale, the measure used in this study to operationalize these concepts, has been shown to be insensitive to social desirability bias in discriminant validity and construct validity studies (Beere, 1990; King et al.,

1994; King et al., 1997). Therefore, it is relatively safe to infer that these findings are valid indications of the attitudes in this sample.

Perhaps—in so far as this sample is concerned—attitudes are changing with respect to the oppression of women and patriarchal beliefs, reducing the viability of these concepts with this population. The results of this study, in combination with strong organizational influences from the military promoting equality already mentioned, may suggest this possibility. It can be argued that the results reflecting a relatively low probability of issuing severe punishment overall would not be in the best interest of the victim, or of the offender in the long run. But, it cannot be argued that the responses given were because of non-egalitarian beliefs.

An additional result of this study (i.e., not part of the formally tested model) showed no statistical difference between male and female commanders' responses to the vignettes, suggesting a lack of gender bias in decision-making on domestic violence cases. This result could be due to female commanders striving to parallel the behavior of their male peers, in attempts to be accepted by the group majority, as discussed earlier. Another possibility is that both male and female commanders may be responding in a truly egalitarian way, given this population and issue.

Subtle manifestations of discrimination against women may still occur in some areas of the military (e.g., equal access to combat duties). However, the results of this study, with respect to this sample and topic, do not appear to play

out in a manner consistent with the tenets of radical or liberal feminist theories. Hence, this theory does not appear to have much utility with Air Force command populations.

While the value of feminist perspectives to aid in understanding women's experiences may be evident to many social work practitioners, the empirical worth of these theories requires reexamination. It should be noted that, in addition to the findings of this study, feminist theories have not garnered much support in the existing empirical literature (Valentich, 1996; Yllo & Straus, 1990). Indeed, some feminist scholars explain the dearth of empirical support by accusing positivistic approaches to research as being overly reductionist and inherently androcentric. They thus argue to approach research instead from postmodern or constructivist perspectives in order to give women voice in their own words (Davis & Srinivasan, 1995). Other researchers, attempting to bridge the practice-research gap, advocate for applying feminist perspectives in alternative, less rigorous empirical methods, such as single-case or comparative groups designs with small clinical samples (Invanoff, Robinson, & Blythe, 1987; Mancoske, Standifer, & Cauley, 1994).

These views, combined with the current lack of supporting empirical evidence, and the apparent growing incoherency of feminist theory as a whole (i.e., increasing numbers of branches of feminist theory) (see, for example, Saulnier, 1996), suggests that researchers should reevaluate the prudence of continued efforts to confirm feminist theories through empirical means (Fischer,

1971). Research resources are finite. As such, they would be better placed in developing practice and policy models based on supported theories, rather than repeatedly trying to test and confirm theories based only on their socio-political appeal and utility. This is especially relevant as social work and other helping disciplines are increasingly insisting on evidence-based practices (Gambrill, 1999).

If strong adherents of feminist theory wish to continue in an empirical vein, perhaps the research agenda should be re-ordered. Researchers could first seek to redefine the concepts of feminist theory that would consider the current status of women, women's view of their roles and experiences, and other socio-structural influences. Qualitative methods could be used to initially capture such information. More accurate instruments could then be developed based on these new conceptualizations to measure them and test their explanatory power through empirical methods.

Implications for Practice

The results of this study have several implications for both social work practice and for commanders' roles in spouse abuse cases. This section discusses practice and training recommendations for social workers treating abusive couples and for commanders responding to substantiated offenders.

Social Work Practice

The lack of significant difference in variance between vignettes and the relatively small increase in average score (although statistically significant) from

Vignette 1 to Vignette 2 suggests that commanders may fail to recognize spouse abuse as a criminal act and thus fail to respond accordingly. Had they recognized the criminality of domestic violence, a markedly higher average response score on Vignette 2 and a much lower variance in Vignette 2, compared with Vignette 1 (indicating commanders' surety about the appropriate response with severe abuse and are responding in the same way) would have been expected. A key social work role is to educate clients. In this context, the commander can be viewed as an indirect social work client (i.e., much like collateral contacts) with the ultimate goal of providing better service to those directly affected by the abuse. Therefore, social workers should increase efforts to educate commanders, other central decision makers, and first responders on precise clinical and legal definitions of abuse, its various manifestations (e.g., more subtle, but equally damaging, forms of emotional abuse), the escalating nature of domestic violence (Eisikovits & Winstok, 2001), and both the civilian and military statutes regarding domestic violence.

Regarding the commanders' responses to Vignette 1, only 74% reported a high probability (#7 on a scale of 1 through 7) that they would refer the case to the Family Advocacy Program. This finding implies that social workers must continue aggressive outreach to encourage commanders to promptly refer abusive couples—without exception—to the Family Advocacy Program (and other relevant resources) for assessment, short and long term safety planning, treatment, and external referral. It should be noted, however, that the vignette

stated the Family Advocacy Program was already involved in the case. So perhaps the commanders rightfully assumed this and did not think they would need to refer. That is, this percentage might have been higher if the vignette had not contained a statement indicating that FAP was already involved. A future study should consider different vignette texts (e.g., those without statements containing that a referral to FAP had already occurred) to more accurately assess commanders' actions with respect to referral to the Family Advocacy Program.

This sample's average scale score on the Decision Making Scale (Daake, 1995) suggests that commanders agree more strongly with having an intuitive decision making style than a rational one when making important job decisions. An intuitive decision making style, according to the concepts the scale attempts to measure, is interpreted as one in which the decider acts on his/her own internal information rather than seeking out information from external sources. Thus, this finding implies that commanders, in general, may not seek external information or consult to make important job decisions. However, this is not necessarily a negative implication. As discussed previously, the ability to make decisions quickly, without taking the time to gather information from many sources, is a needed and valuable skill for military commanders.

Moreover, the findings in this dissertation cannot definitively conclude that commanders espouse an intuitive decision making approach when responding to domestic violence situations since the scale was not placed in that context in the

survey (doing so would have interfered with the scale's existing psychometric properties). A specific question regarding whether or with whom they would consult on such matters was not asked, and is thus cited as a limitation to this study. Future studies of this kind could be improved by asking these specific and relevant questions.

Nevertheless, given the general implication of the scale, social workers can utilize this information in broad terms to improve their practice with respect to dealing with the military command force. Social workers should be assertive in approaching commanders, rather than assuming the commander will routinely seek us out for consult or needed information. [This is especially true when Ops Tempo is high—like is the case currently—when a commander's attention must be divided among numerous operational requirements and foci.] Military social workers should strive to develop and maintain effective working relationships with commanders and senior NCOs through which to communicate our clinical findings, impressions, and recommendations. An additional practice recommendation based on this finding is that social workers should educate and train commanders *on an ongoing basis* in order to reinforce important aspects of responding to domestic violence.

An additional finding of this study was that many commanders reported they would refer the offender (and the couple) to the chaplain or clergy, in addition to referring to the Family Advocacy Program. Due to the study design and construction of the survey, it is not possible to understand why the

commanders see the chaplain as an appropriate referral source. It may be a conceptual issue, i.e., commanders may still view domestic violence as a moral infraction instead of or in addition to a legal infraction, and should therefore be addressed by a religious figure. Or, it may be an attempt to prevent the establishment of an official Family Advocacy Program record on the offender: the Air Force chaplains enjoy greater latitude than social workers with respect to privileged communication and are not, unlike social workers, classified as mandatory reporters of abuse incidents. They thus are not required to maintain official records or report incidents to a permanent central registry, as do social workers.

Results of this study show that for whatever the reason, the chaplain is still seen as viable referral source for many commanders to address spousal violence. This tendency of commanders to refer to the clergy should not be resisted, rather social workers should work with it to improve our overall service to victims and offenders. Social workers can consider partnering more closely with Chaplain staff than occurs currently for training on assessment, safety and treatment planning, and referral.

Another finding of this study revealed that many commanders said they would need to "hear the other side of the story" before they could make a decision on how to discipline the offender. These were statements made by commanders either in response to one of the open-ended questions or written in the margins of the survey (i.e., without specific prompting by any survey

question). Because the survey did not ask about this issue specifically, it is not possible to know in some cases exactly to whom the respondents were referring (e.g., some commanders did report explicitly that they would want to speak to the victim, but some did not).

Considering this finding as it exists, a general practice implication may be made. Social workers can strongly encourage the commander him/herself to attend the FMCMT, where all aspects of the case are reviewed and discussed, whenever possible. Commanders could then utilize the information provided in this forum to aid in their decision process. If the commander wishes to hear the victim's side of the story, a more aggressive practice implication is that social workers could consider acting similar to a victim advocate to facilitate direct communication between commanders and victims. Finally, the development of standardized guidelines could include this feedback by commanders by incorporating a mechanism by which the commander can receive accurate information from all involved parties.

Similar to the finding just discussed, many commanders wrote in that any consequences issued would be partially determined by both previous abuse history and previous disciplinary consequences received. Consequently, this finding has implications for social work assessment. Practitioners should vigilantly capture as much information as possible concerning both abuse history (reported and unreported) and any previous consequences during the clinical assessment. This documentation, then, can become a part of the official record

and can be used by both treatment providers and commanders to assist in making the most informed decisions possible.

A final implication for social work practice, based on an anecdotal finding of this study, concerns advising commanders should they seek social workers' consult about giving disciplinary consequences. During the data collection phase of this study, the author was contacted by one of the survey respondents. He asked if he should issue consequences to spouse abuse offenders at all. He stated that he was advised by social workers on his base that he should not issue consequences because doing so might aggravate the couple's situation further and result in an escalation in violence. It is typically not within the limits of a social worker's professional expertise or position authority to determine an appropriate disciplinary option for an offender, with the exception of recommending a no-contact order (i.e., restraining order) in the interest of immediate and long-term victim safety. This recommendation is based on evidence on the effectiveness of protection orders. Studies have shown that arrest for violent acts toward the protectees decreased following issuance of a protection order, allowing for an inference that such orders may deter future violent behavior toward victims (Meloy, Cowett, Parker, Hofland, & Friedland, 1997). However, social workers should be cautious about advocating for no consequence at all based on a concern that the consequence might aggravate the couple's situation and escalate the violence.

Although this finding is anecdotal (based on a telephone conversation),

the broader issue of whether prosecution has increased violence has been researched empirically. As discussed in the literature review of this dissertation, Ford and Regoli (1993) found that any type of prosecutorial action reduced the risk of future violence by 50% compared to pre-prosecution violence. Other empirical studies have shown that a combination of consequences and treatment significantly lowered domestic violence recidivism rates than either any intervention in isolation or no intervention at all (see, for example, Murphy et al., 1998; Tolman & Weisz, 1995). A recent study on a model court designed to aggressively address domestic violence shows that the court increased domestic assault arraignments (instead of dismissing charges) and disposed of these cases through a conviction and sentence (Buzawa, Hotaling, & Klein, 1998). This study endorses the move toward definitive legal and judicial action against offenders.

Recommendations for Commanders

Part of the intent of this study was to determine whether and to what extent role ambiguity was a contributing factor in a commander's disciplinary response to spouse abuse offenders. This issue was heretofore observed by social workers and other relevant parties (to include commanders themselves) only on an experiential, anecdotal basis. The empirical findings from this study can be used as a starting point to help, at least from a preliminary basis, validate the existence of this issue and to begin to describe its nature more precisely. That the perceived role variable was a statistically significant predictor for both

vignettes provides evidence that role, in general, is indeed a contributing factor. It should therefore be examined further in future research to more fully understand its explanatory influence and to discover how this factor can be improved to better the overall response to domestic violence occurring in the uniformed ranks. Also, because there was no difference in variance found between the two vignettes provides evidence that commanders as a group did not differentially respond to scenarios of distinctively varying abuse severity.

Lack of explicit role expectations in responding to spouse abuse offenders can lead to confusion and consequent inconsistencies across the command force. The result may be detrimental to the victim, the couple, and ultimately the military mission. This study offers some quantitative evidence that such inconsistency exists and justifies the need for development of role expectations or job descriptions that are situation-specific to responding to substantiated spouse abuse offenders.

The additional findings of this study have implications for training of commanders and other decision makers who respond to domestic violence. Some commanders reported they would either include their First Sergeants in the decision-making process or completely delegate the decision to the First Sergeant. Clearly, commanders have the prerogative to handle this type of decision situation however they choose, while still remaining ultimately responsible for the consequence of the decision. The findings of this study show that if the First Sergeants and other senior NCOs will be integral decision

makers, then they—in addition to commanders— should receive intensive training on both the dynamics of abuse and on the various disciplinary options (and their ramifications) that are available to the commander.

Another training implication to be made from the study's results concerns referral of the offender to the chaplain/clergy. The belief of spouse abuse as a moral issue has deep historic roots in our society. The early origins of our marriage laws are based on English law, which in turn was originally determined by ecclesiastical order. Out of this historic development, violence occurring within a marriage grew to be considered a moral, rather than a legal issue. Importantly, these laws explicitly condoned a husband's physical and emotional abuse of his wife on moral grounds in order to maintain control of her and keep her chaste (for a complete review, see McCue, 1995; also Glazer, 1993).

While it may be acceptable for commanders to view domestic violence, at least in part, as a moral issue to be addressed by religious authorities, it is also necessary to recognize it as a criminal act. Training for commanders should consider including both perspectives, their historic development, the responses from authorities representing both perspectives, and the advantages and disadvantages both possess. This is to acknowledge that referral to the clergy may benefit some offenders and couples. The results of this study show that many commanders believe this to be true. Training should be geared toward teaching commanders how to access the clergy if they deem it appropriate for those involved in the case, while not relinquishing their legal responsibilities.

Many commanders reported their decisions on disciplinary action would be partially based on previous consequences issued in cases involving recidivating offenders (e.g., the scenario depicted in Vignette 2). Based on this finding, a recommendation for commanders is to develop a system that would permanently document disciplinary or administrative consequences issued resulting from substantiated charges of spouse maltreatment. Currently the Air Force has the Family Advocacy Program's Central Registry, which permanently documents all allegations—both substantiated and unsubstantiated—of family maltreatment. This information is available only to social workers and other practitioners to use in obtaining abuse history for clinical assessment and treatment planning. A similar system could be utilized by commanders for the purpose of aiding in the determination of the most appropriate response option. Moreover, this information could be available for commanders to access on individuals as they travel across assignments. An effective parallel would be something akin to the arrest and prosecution record (i.e., the "rap sheet"), found in the civilian justice system. Perhaps the Judge Advocate General and the Security Forces could be consulted to explore the development of such a system.

A final implication for the commanders' role in responding to spouse abuse offenders concerns both training and the development of standardized guidelines to follow when making disciplinary decisions. This study provided preliminary data on the choices a sample of the Air Force squadron command

force made given different abuse situations. This information, particularly the measures of central tendency, could be defined as a consensus of what might be considered *by commanders* as the most appropriate responses to domestic violence.

Moreover, in terms of role theory, the consensus could then develop into normed behavior (Davis, 1996). This could have a positive impact in terms of ensuring offenders' abusive behavior is met with a meaningful consequence. If the administration of particular sanctions is normed, then commanders may be more willing to issue them, knowing they would not be doing something questionable or outside of the norm; rather they would be conforming to expected behavior and that of their peers (Davis, 1966; Thomas & Biddle, 1966). Such agreed-upon responses could be incorporated into initial and ongoing training for commanders and into the content of standardized guidelines. Future research should seek to gain more information on what commanders, from all branches of the military, believe should be the most appropriate responses and combine this data with the opinions of legal, judicial, and other relevant experts in this area.

Limitations and Suggestions for Future Research

Design

First, since this study employed a cross-sectional survey design, trends could not be detected. This weakens the validity of findings and limits drawing any causal inferences that would be more defensible with longitudinal data.

Future research should determine which aspects of this study are worthy of replication and subsequent surveys should be conducted to establish the existence and nature of trends across time.

Second, this study, like survey research in general, is relatively inflexible in that it was thus unable to capture the context of the life situations in which the respondents made their decisions (Babbie, 1998). In other words, the study could not ascertain whether or how events occurring in a respondent's immediate environment might have affected his/her decisions and decision processes. This point is particularly salient given that the data were still being collected during the September 11, 2001 terrorist attacks on the United States. A limitation of this kind could be improved in future studies with the incorporation of qualitative methods, such as participant observation and/or ethnographic interviews (Strauss, 1987). Qualitative methods may help the researcher potentially gain a more in-depth understanding of the influences that various nuances of a case, external factors, and other factors a commander might consider have on the decision-making process than is possible through quantitative means. It could also shed light on the influence of unique characteristics of the respondent's general environment, such as the respondent's command climate, location, etc. The methods could also be adjusted to accommodate how unusually significant events, like September 11, might affect the variables of interest.

Third, though the study had a strong theoretical base for the model tested

based on existing empirical and conceptual domestic violence and decision-making literature, there is currently a lack of empirical support for this specific issue and population. That is, before this study, the theories that guided the research had never been tested in the area of decision-making on spouse abuse offenders in a military setting. While role theory received strong support, decision theory received only moderate support and feminist theory received slight support. Again, this deficiency might be better addressed using a qualitative design. It could be that the phenomenon of interest is being misconceptualized to some degree. New and perhaps more accurate theoretical assertions could be developed through qualitative methods. As a result, other variables not considered in this study could be discovered. These theoretical assertions and variables could then be tested quantitatively (Sells, Smith, & Sprenkle, 1995).

Sampling

This study employed rigorous measures to achieve respondent anonymity due to the sensitive nature of the research topic and the population of interest. Thus, the sample of respondents could not be described in great detail, which limited the ability to draw inferences about how certain groupings of respondents may have responded. For example, it was impossible to determine the existence or nature of differences in the responses of medical versus flying squadron commanders. Similarly, the study could not determine how various demographic characteristics such as types and levels of education, racial and ethnic factors,

personal history, etc. may have influenced the responses made by the participants. This limitation possibly results in a lost training opportunity: if differences in groups were found to exist, then tailored training could be developed to target the needs of specific groups.

Despite the aforementioned limitations, maintaining respondents' anonymity provided noteworthy benefits to the study. For example, it may have facilitated the return rate, which was considerably higher than average survey return rates for this population. Also, from a long-term perspective, it may have helped to "open the door" for conducting future research on this and related topics with military leaders. Future studies of this kind should continue to foster commanders' trust by protecting anonymity so that more information on sensitive topics may be gathered. Studies could also explore the possibility of *voluntary* disclosure of personal demographics from research participants in order to gather data on how this information may interact with variables of interest. Finally, a random sampling method allowed better confidence in generalizability to the larger population of Air Force squadron commanders. This is particularly true given that the sample respondents were representative on the demographics gathered to the Air Force field-grade level command force overall.

Measurement

There are several limitations with respect to measurement worthy of mention. First, standardized measures may limit the assessment of what may be most valuable or appropriate to many respondents. This was evidenced by

some commanders' comments stating that they failed to see the relevance of either the Decision Making Scale or the Sex-Role Egalitarian subscales to the basic intent of the survey. As stated previously, it was not possible to place these scales in the context of domestic violence in order to maintain the integrity of the existing psychometric properties. It could be that these commanders do not believe that the concepts measured by these instruments are associated with their decision processes on spouse abuse cases. Research on survey methodology has shown that respondents are more likely to complete items if they feel the subject matter of the survey provides some kind of personal involvement (Dillman, 2000; Donald, 1960). Future research should continue to discover which variables are most relevant to this issue and the target population, and use instruments that measure such concepts accordingly.

Second, this study's theoretical framework included concepts from radical feminist theory. However, the instrument used to measure these concepts, the Sex-Role Egalitarian Scale, aligns more closely with liberal feminist concepts than with radical feminism (Saulnier, 1996). The SRES was deliberately chosen as its item content appeared less provocative than existing instruments measuring radical feminist concepts (e.g., the Attitudes Toward Women Scale, Spence, Helmreich, & Stapp, 1973). A less provocative (i.e., more conservative) scale was recommended to better ensure an adequate return rate from a population of military officers (S. Stith, personal communication, June 18, 2000). However, it should be noted that the measure did deviate from the conceptual

basis, which is cited as a limitation to this study. Future studies should strive to include measures that are consistent with the theories being tested and that do not pose possible risk to other aspects of the research project.

Third, surveys cannot measure social action; they can only collect self-reports of recalled past action, prospective, or—as was the case in this study—hypothetical action (through the use of vignettes). In this study, a vignette format helped control for recall problems or allowed for data collection in the case of a respondent who had not yet experienced a spouse abuse situation. However, the vignettes themselves were limited in that they did not include many of the factors a commander might typically consider when faced with these decisions. Future measurement designs could include several different vignette scenarios to attempt to capture the effects of various factors seen in spouse abuse cases. Also, another consideration that could be applied to a survey design would be to add an open-ended item asking respondents to state the factors of a case they believe are most important in their decision processes and to rank the importance of each. This could help create more relevant, realistic scenarios for both research (in authoring vignettes) and training purposes (for use in practicing response/decision skills).

Fourth, this study used measures that have not been validated. The reliability estimates of the independent measures ranged from 0.71 to 0.92. According to some authorities, scale scores with a reliability of 0.60 or higher for scientific research and 0.80 for applied purposes are acceptable (Hudson,

1982). But recent work in psychometrics and the effects of measurement error on regression analysis by Nugent et al. (2000) challenges these standards. These authors strongly advocate for "...very high standards for the reliability and validity of the measures used in research" (p. 70). They argue that "...a *minimum* [italics added] standard of .90 or higher is probably not unreasonable" (p. 71). Two of this study's scales fall short of such rigorous standards (i.e., the Decision Making Scale and the Perceived Role Scale). The psychometric characteristics of these scales are, as always, sample-dependent and should be tested through replication studies. Further, from a conservative standpoint, the results of this study should be interpreted with caution and considered only preliminary until the measurement scales can be refined and validated in future studies.

A final consideration for future research with respect to measurement issues is to explore substantive improvements in some of the scales used in this study. For example, while the response options for the vignettes are linear in terms of increasing severity, it may be more accurate to consider whether some of the options should be weighted more heavily than others. In other words, the general relationship among the options may be linear, but the weight of severity between the options relative to each other may not be equal. A future study could gather information from commanders and legal advisors to determine if such a scoring system would be warranted, and thus improve the accuracy of these measurement scales. Also, several commanders made comments

suggesting that the items in the DMS (Daake, 1995) are excessively repetitive or distracting due to reverse wording. A refinement of this scale should consider this feedback and examine rewording the items to improve clarity; the item pool could also be reduced to alleviate redundancy while preserving or improving existing psychometric properties.

Analysis

The primary limitation in this study regarding analysis was that only one indicator (i.e., scale) was used to measure each latent construct. While the measurement error was compensated for by accepted mathematical procedures (Mueller, 1996; Tate, 1996), the confirmatory factor analysis and structural equation modeling analysis would have been strengthened had more than one standardized indicator (i.e., measurement instrument) been available to measure each latent construct (Nugent et al., 2000). Future research should continue to search for applicable validated instruments to measure the latent constructs of interest and thereby more fully represent the measurement process (Jöreskog & Sörbom, 1993).

Also, a SEM analysis cannot make definitive statements of causality—it can only disconfirm the proposed theoretical model. This limitation is even further heightened in the current study where with a cross-sectional survey design, there is only one set of data from one point in time. This can only provide suggestive evidence toward the true relationship between variables. Therefore, it should be acknowledged that, despite the power and sophistication

of SEM, one of the three criteria for causation did not exist in this study: temporal order (Babbie, 1998). Longitudinal, repeated-measures models, or experimental designs could provide data that would more closely approximate the criteria for making causal inferences (Hopkins, 1997).

Finally, though a SEM analysis has limitations like those outlined above, it is a definitively strong analytical tool that incorporates measurement error into the regression model. This characteristic of structural equation modeling significantly improves its robustness to less-than-perfect psychometric properties of both independent and dependent variables. While Nugent et al. (2000) strongly advise the strictest standards for independent measures (discussed above), they state that "...the measurement error in dependent variables is absorbed by the regression error term without undue consequences for the regression analysis" (p. 71). Because SEM inherently incorporates measurement error into the regression model, the results are therefore more realistic and accurate than traditional regression methods. These principles are especially important for the current study where the dependent measures had only marginal reliability estimates (0.60 and 0.73), and for behavioral social science research in general, given the inherent difficulty in accurately measuring human cognitive and attitudinal processes.

Conclusion

Domestic violence is a serious social problem that requires a commensurately serious address. It is a problem that is aggravated in the

military due to myriad of factors that serve to complicate an already complex issue. It is a problem that is difficult both for those family members involved and also for the professionals who attempt to address it through therapeutic, disciplinary, or legal means.

Military commanders are expected to perform in capacities that are aimed at ensuring victim safety and holding offenders accountable, whereas these roles are reserved for judicial authorities in the civilian world. This phenomenon is part of the complicating issue with respect to the military's response to domestic violence: commanders are typically not adequately trained for these very serious responsibilities. This study attempted to cast light on some of the factors that may contribute to the decision-making process commanders engage in when responding to a spouse abuse offender. The significant findings of this study suggest that the perceived role and Ops Tempo variables warrant further study. The lack of variability in the responses to the two vignettes suggests that commanders may be unclear (i.e., role ambiguity) as to the appropriate responses for cases of different abuse severity. This might be expected given that the commanders' role in these situations is not clearly described. Such ambiguity appears to be attenuated, however, with an increase in Ops Tempo.

Some of the guesswork should be taken out so that the command force can communicate unequivocal and consistent messages that family violence will not be tolerated. This is a critical step to take if the goals are to ensure victim safety, promote discipline, and maintain the posture of the military mission.

These goals can be achieved through purposeful education, effective training, outreach efforts to increase awareness, and a decision matrix to help guide commanders to the most appropriate, effective courses of action possible.

APPENDIX A
HUMAN SUBJECTS COMMITTEES APPROVAL DOCUMENTS



Office of the Vice President
for Research
Tallahassee, Florida 32306-2763
(850) 644-8673 • FAX (850) 644-4392

APPROVAL MEMORANDUM

from the Human Subjects Committee

Date: June 15, 2001

From: David Quadagno, Chair

DAI/ph

To: Lisa Sayegh
2701 Ocala Court
Tallahassee, FL 32309

Dept: Social Work

Re: Use of Human subjects in Research
Project entitled: Factors Contributing to a Military Commanders Decision
Making Process in Spouse Abuse Cases

The forms that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be exempt per 45 CFR § 46.101(b)2 and has been approved by an accelerated review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals which may be required.

If the project has not been completed by June 14, 2002 you must request renewed approval for continuation of the project.

You are advised that any change in protocol in this project must be approved by resubmission of the project to the Committee for approval. Also, the principal investigator must promptly report, in writing, any unexpected problems causing risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is IRB00000446.

Cc: Dianne H. Montgomery
APPLICATION NO. 01.295



Office of the Vice President
for Research
Tallahassee, Florida 32306-2811
(850) 644-5260 • FAX (850) 644-4392

APPROVAL MEMORANDUM (for change in research protocol)
from the Human Subjects Committee

Date: July 17, 2001

From: David Quadagno, Chair *DQ*

To: Lisa Sayegh
2701 Ohara Court
Tallahassee, FL 32308

Dept: Social Work

Re: Use of Human subjects in Research
Project entitled: Factors Contributing to a Military Commanders Decision Making
Process in Spouse Abuse Cases

The memorandum that you submitted to this office in regard to the requested change in your research protocol for the above-referenced project have been reviewed and approved. Thank you for informing the Committee of this change.

A reminder that if the project has not been completed by June 14, 2002, you must request renewed approval for continuation of the project.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is M1339.

cc: Dianne H. Montgomery
chgapp.doc
APPLICATION NO. 01.295



Office of the Vice President
for Research
Tallahassee, Florida 32306-2811
(850) 644-5260 • FAX (850) 644-4392

APPROVAL MEMORANDUM (for change in research protocol)
from the Human Subjects Committee

Date: August 20, 2001

From: David Quadagno, Chair *DQ*

To: Lisa Sayegh
2701 Ohara Court
Tallahassee, FL 32309

Dept: Social Work

Re: Use of Human subjects in Research

Project entitled: Factors Contributing to a Military Commanders Decision Making Process in Spouse Abuse Cases

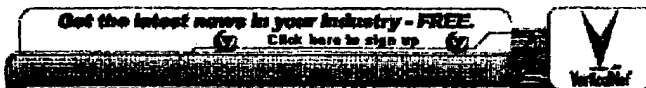
The memorandum that you submitted to this office in regard to the requested change in your research protocol for the above-referenced project have been reviewed and approved. Thank you for informing the Committee of this change.

A reminder that if the project has not been completed by June 14, 2002, you must request renewed approval for continuation of the project.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is M1339.

cc: Dianne H. Montgomery
chgapp.doc
APPLICATION NO. 01.295



LinkExchange

lisasayegh@earthlink.net



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From: "Graziano, Alfred, Lt Col, USAF/SGXC" Alfred.Graziano@USAFSG.Bolling.af.mil
 To: lisasayegh@earthlink.net
 Subject: RE: IRB
 Date: Fri, 22 Jun 2001 12:47:29 -0400
 CC: Dari.Tritt@USAFSG.Brooks.af.mil, Meg.Haynes@brooks.af.mil
 Capt Sayegh,

I have reviewed this request in accordance with AFI 40-402

<http://afpubs.hq.af.mil/pubfiles/af/40/a/afi40-402/afi40-402.pdf> para 3.4
 Survey Research and 32 CFR 219 (Common Rule)

<http://sg-www.satx.disa.mil/moasgot/32cfr219.html#Sec> Section 101 and have determined that this study is exempt according to the rules governing research in the Air Force. This exemption is based on my interpretation of section 101 b(2) since this study will not collect personal information from the subjects. It is not necessary for this study to be reviewed by an Air Force Institutional Review Board (IRB).

You are to be commended for an excellent study design and plan to keep subject responses confidential. I have two comments on the Introduction (page 1 of the survey) which are offered as optional additions:

1) Consider adding that this study was reviewed and approved by the Florida State Institutional Review Board and HQ USAF SG.

2) Consider offering a copy of the final product in some way (e.g. If you are interested in receiving a copy of the final results of this study please contact me at ...)

This exemption is only for the study as written and reviewed by me on 21 June 2001. Any change to the study should be reviewed by the IRB and HQ USAF SG. In addition I recommend that (if you have not already done so) you become familiar with the rules of military research which are outlined in our web based training program (blocks 1, 2, 3) at http://sg-www.satx.disa.mil/moasgot/Training_Plan.htm

Please feel free to contact me with any additional questions/concerns. Good luck!

//signed//

ALFRED S. GRAZIANO JR, Lt Col, USAF, BSC
 Chief, Biomedical Research Regulatory Division
 Chairperson, Surgeon General's Research Oversight Committee
 HQ USAF SGXC 5201 Leesburg Pike, Suite 1600
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 Air Force Biomedical Research Regulatory Division (AFBRRD)

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From: "Graziano, Alfred, LtCol, USAF/SGXC" Alfred.Graziano@USAFSG.Bolling.af.mil

To: lisasayegh@earthlink.net

Subject: RE: Changes to survey after pilot

Date: Mon, 16 Jul 2001 13:26:05 -0400

Capt Sayegh,

I have reviewed these changes in accordance with AFI 40-402

<http://afpubs.hq.af.mil/pubfiles/af/40/afi40-402/afi40-402.pdf> para 3.4
Survey Research and 32 CFR 219 (Common Rule)

<http://sg-www.satx.disa.mil/moasgot/32cfr219.html#Sec> Section 101 and have determined that this study is still exempt according to the rules governing research in the Air Force. This exemption is based on my interpretation of section 101 b(2) since this study will not collect personal information from the subjects.

Best of luck!

ALFRED S. GRAZIANO JR, Lt Col, USAF, BSC
Chief, Biomedical Research Regulatory Division
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Webpage <http://www.afms.mil/sgx/sgxc>
E-mail: alfred.graziano@usafsg.bolling.af.mil

-----Original Message-----

From: Lisa Sayegh [<mailto:lisasayegh@earthlink.net>]

Sent: Thursday, July 05, 2001 6:27 PM

To: Lt Col Al Graziano

Subject: Changes to survey after pilot

Lt Col Graziano,

Hope you are doing well and had a pleasant Fourth of July holiday.

I conducted the pilot of my survey last week in San Antonio, as planned. The pilot went very well. And, as you might expect, I made some slight revisions to the survey as a result of the suggestions given to me during the pilot.

None of the changes are substantive. They are mostly editorial in nature: streamlined the survey organization, simplified the instructions, reduced redundancy, etc. I also added three items suggested to me by the pilot participants (they are consonant with my theoretical model).

Please see the attached list of specific changes.

.../readmsg.asp?listdirection=-1&listperpage=20&msgnumber=1&abc=F8F3E4B559C2F700D377/16/01



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE PERSONNEL CENTER
RANDOLPH AIR FORCE BASE TEXAS

18 June 2001

AFPC/DPSAS
550 C Street West Ste 35
Randolph AFB TX 78150-4737

Captain Lisa Sayegh
2701 Ohara Court
Tallahassee FL 32308

Dear Captain Sayegh

Your proposed survey is approved for use with a sample of Air Force commanders. The only comment we offer regards a missing response option in Part II. Please add, "41-50%" and change the last option to, "More than 50%." With these changes, your survey control number is USAF SCN 01-060 and will expire on 31 Dec 01.

We wish you continued success in your academic pursuits. Questions regarding this survey approval action can be directed to me at DSN 665-2448 or (210) 565-2448.

Sincerely,

A handwritten signature in dark ink, appearing to read "Charles H. Hamilton", is written over the word "Sincerely,".

CHARLES H. HAMILTON
Chief, Survey Branch

APPENDIX B
COMMANDER'S MANAGEMENT AND DECISION SURVEY
(INSIDE POCKET)

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BIOGRAPHICAL SKETCH

The author was born in New Orleans, Louisiana in 1963. She graduated with the last all-girl class of Riverdale High School in 1981. She received her B.A. in Psychology from Louisiana State University in 1985, Cum Laude. After three years of active military service in the U.S. Army, she returned to school and earned a Master of Social Work degree from The Florida State University in 1993. She worked in private and agency mental health practice for six years before entering the U.S. Air Force in 1994 as a clinical social worker. As an Air Force officer, she has served both as a clinical practitioner and as a manager of programs for the prevention and treatment of family violence, outpatient mental health, and substance abuse problems. She holds both the independent practice license and board certification credentials in clinical social work, and is currently serving in the rank of Major in the U.S. Air Force. She shares authorship on a state-wide research report addressing the needs of domestic violence victims in the state of Florida. Her dissertation findings are foundation documents for Department of Defense policy on the U.S. military's response to intimate partner violence.

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ABSTRACT

Inconsistencies may exist among commanders when making disciplinary decisions on spouse abuse offenders. This could consequently lead to inappropriate decisions, further endangering victim safety. It may also deleteriously impact military offenders and readiness posture.

This study asked two main research questions: 1) To what degree do individual and organizational factors explain commanders' decision outcomes when making disciplinary decisions on cases involving varying abuse severity?; 2) As a group, will commanders' variability in decision outcome differ across cases involving varying abuse severity?

A randomly selected sample of 624 Air Force squadron commanders was surveyed. Two main hypothesis sets were tested: 1) Commanders reporting a "hands-off" perceived role, weaker sex-role egalitarian attitudes, and higher operations tempo will make less stringent disciplinary decisions than commanders scoring in contrary directions on these variables; 2) As a group, commanders will show more variability in their decisions on an ambiguous mild-moderate spouse abuse scenario (Vignette 1) compared to decisions on an unambiguous severe spouse abuse scenario (Vignette 2).

A 58.65% (n=366) return rate was obtained. Structural equation modeling analyses yielded the following effects for hypothesis set 1: 1) Perceived role and operations tempo were significantly related to decision outcome on Vignette 2, in the opposite direction hypothesized; 2) Perceived role was significantly related in

the hypothesized direction to decision outcome on Vignette 1. Multivariate analysis supported the null hypothesis for hypothesis set 2.

Discussion includes implications for social work practice and policy in developing a coordinated response to domestic violence. Directions for future research are suggested.

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ABSTRACT

Inconsistencies may exist among commanders when making disciplinary decisions on spouse abuse offenders. This could consequently lead to inappropriate decisions, further endangering victim safety. It may also deleteriously impact military offenders and readiness posture.

This study asked two main research questions: 1) To what degree do individual and organizational factors explain commanders' decision outcomes when making disciplinary decisions on cases involving varying abuse severity?; 2) As a group, will commanders' variability in decision outcome differ across cases involving varying abuse severity?

A randomly selected sample of 624 Air Force squadron commanders was surveyed. Two main hypothesis sets were tested: 1) Commanders reporting a "hands-off" perceived role, weaker sex-role egalitarian attitudes, and higher operations tempo will make less stringent disciplinary decisions than commanders scoring in contrary directions on these variables; 2) As a group, commanders will show more variability in their decisions on an ambiguous mild-moderate spouse abuse scenario (Vignette 1) compared to decisions on an unambiguous severe spouse abuse scenario (Vignette 2).

A 58.65% (n=366) return rate was obtained. Structural equation modeling analyses yielded the following effects for hypothesis set 1: 1) Perceived role and operations tempo were significantly related to decision outcome on Vignette 2, in the opposite direction hypothesized; 2) Perceived role was significantly related in

the hypothesized direction to decision outcome on Vignette 1. Multivariate analysis supported the null hypothesis for hypothesis set 2.

Discussion includes implications for social work practice and policy in developing a coordinated response to domestic violence. Directions for future research are suggested.

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